





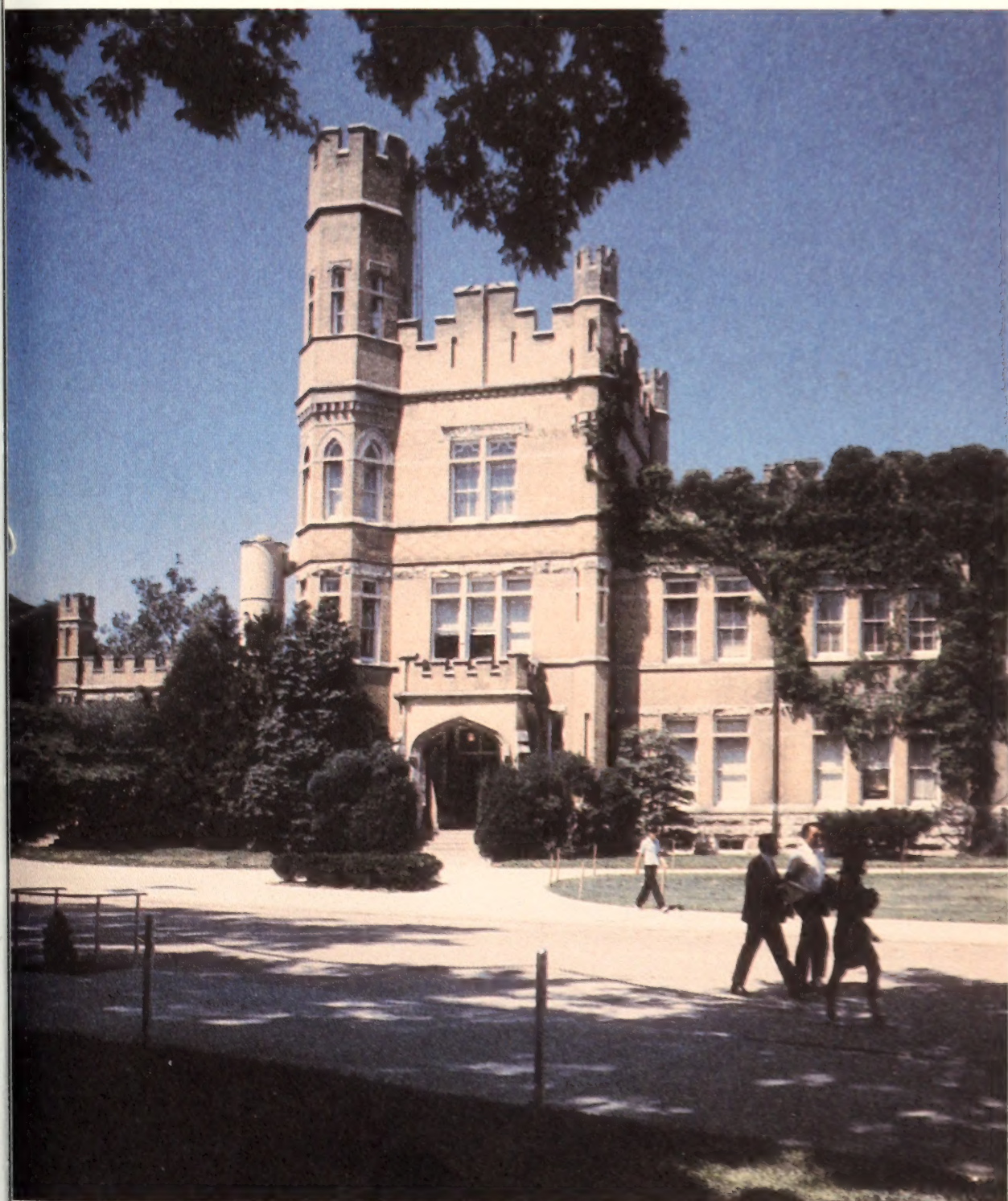


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Southern Illinois University
at Carbondale

Bulletin

1989-1991 Graduate Catalog



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Graduate School Phone 618-536-7791

SIUC complies fully with applicable federal and state nondiscrimination and equal opportunity laws, orders, and regulations in admission, employment, and access to University programs and activities. Complaints or requests for further information should be directed to the University Affirmative Action Office, Anthony Hall 104, 536-6618.

SIUC is committed to creating and maintaining a university community free from all forms of sexual harassment. Copies of the "Sexual Harassment Policy and Grievance Procedures" are available in the University Affirmative Action Office. Problems should be reported promptly to the University Ombudsman, Woody Hall C302 or to the University Affirmative Action Office, Anthony Hall 104.

This publication provides information about Southern Illinois University at Carbondale. Primary attention is given to its academic programs, rules and regulations, and procedures. Students will be subject to the published requirements in effect when they are admitted to the Graduate School. Students beginning graduate work during the period of time from the start of summer semester 1989 through spring semester 1991 are subject to the academic requirements of the Graduate School as specified in this publication. These requirements may be superseded by future publications of the Graduate School Catalog. If the requirements are subsequently changed, students may elect either to meet the requirements in force in their particular degree programs immediately prior to the change, or to meet the new requirements. If they elect the former option they shall be guaranteed a minimum period of time from the date that the program requirements were changed within which minimum period they will be permitted to complete the old degree requirements.

This minimum period shall be determined by the department or other degree-program unit, subject to the following two constraints. First, the minimum period prescribed by the department may not exceed the standard Graduate School limitation that credit applied toward fulfillment of requirements for the master's degree must have been earned within a six-year period preceding the completion of the degree, and that doctoral students must complete degree requirements within five years after admission to candidacy. Second, the minimum period shall encompass no less than two years for master's degree students and three years for doctoral students, with the exception that students in the last stage of their degree work when requirements change (a master's student who has completed all requirements except the thesis or research report and the final examination or a doctoral student who has been admitted to Ph.D. candidacy) shall not be subject to the new requirements but may complete their degrees within the standard Graduate School limitations stated above. Students who elect to follow old requirements, but do not complete their work within the minimum period prescribed by the department, shall, unless they were in the last stage of their degree work when requirements changed, be subject to requirements in force at the time they complete their degrees, and shall be subject to the standard Graduate School limitations described above. The University reserves the right to change information contained herein on matters other than curricular requirements without notice when circumstances warrant such action.



**Southern
Illinois
University
at Carbondale**

Bulletin

**1989-1991
Graduate
Catalog**

**Southern Illinois University at
Carbondale Bulletin (USPS 506-080)**

Volume 31 Number 1 June 1989

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Graduate School Phone 618-526-7700

The Graduate Catalog is published annually with applicable federal and state laws, regulations, and university policies. It is a comprehensive guide to the graduate programs and activities of the University. The Catalog is published by the University of Southern Illinois at Carbondale. It is published by the University of Southern Illinois at Carbondale. It is published by the University of Southern Illinois at Carbondale.

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The Graduate Catalog covers in detail questions concerning the graduate program of Southern Illinois University at Carbondale for the period from summer, 1989, through spring, 1991. It supersedes Volume 29, Number 1, of the *Southern Illinois University at Carbondale Bulletin* and the Graduate School General Information brochure dated 1985-1986.

The following publications may be obtained free from University Electronic Communications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Graduate Catalog

Undergraduate Catalog

School of Law Catalog

Schedule of Classes. Please specify term (fall, spring, or summer).

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Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

	<i>Term Expires</i>
A. D. Van Meter, Jr., <i>Chairman</i> , Springfield	1993
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B. B. Birger, Collinsville	1993
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University Calendar

Summer Session, 1989

Eight-Week Session Begins	Monday, June 12, 7:30 A.M.
Deadline to Apply for Graduation	Friday, June 16
Deadline to Drop an Eight-Week Class and Receive a Refund ...	Friday, June 23
Independence Day Holiday	Tuesday, July 4
Deadline to Drop a Class	Monday, July 10
Final Examinations	Thursday and Friday, August 3-4
Commencement	Saturday, August 5

Fall Semester, 1989

Semester Classes Begin	Monday, August 21, 8:00 A.M.
Deadline to Apply for Graduation	Friday, August 25
Labor Day Holiday	Monday, September 4
Deadline to Drop a Class and Receive a Refund	Friday, September 8
Deadline to Drop a Class	Monday, October 16
Thanksgiving Vacation	Saturday, November 18, 12:00 NOON —Monday, November 27, 8:00 A.M.
Final Examinations	Monday, December 11—Friday, December 15

Spring Semester, 1990

Martin Luther King, Jr.'s Birthday	Monday, January 15
Semester Classes Begin	Tuesday, January 16, 8:00 A.M.
Deadline to Apply for Graduation	Friday, January 19
President's Day Holiday	Monday, February 19
Spring Vacation	Saturday, March 10, 12:00 NOON —Monday, March 19, 8:00 A.M.
Deadline to Drop a Class	Monday, March 19
Final Examinations	Monday, May 7—Friday, May 11
Commencement	Saturday and Sunday, May 12-13

Summer Session, 1990 (Tentative)

Eight-Week Session Begins	Monday, June 11, 7:30 A.M.
Deadline to Apply for Graduation	Friday, June 15
Deadline to Drop an Eight-Week Class and Receive a Refund ...	Friday, June 22
Independence Day Holiday	Wednesday, July 4
Deadline to Drop a Class	Monday, July 9
Final Examinations	Thursday and Friday, August 2-3
Commencement	Saturday, August 4

Fall Semester, 1990 (Tentative)

Semester Classes Begin	Monday, August 20, 8:00 A.M.
Deadline to Apply for Graduation	Friday, August 24
Labor Day Holiday	Monday, September 3
Deadline to Drop a Class and Receive a Refund	Friday, September 7
Deadline to drop a class	Monday, October 15
Thanksgiving Vacation	Saturday, November 17, 12:00 NOON —Monday, November 26, 8:00 A.M.
Final Examinations	Monday, December 10—Friday, December 14

Spring Semester, 1991 (Tentative)

Semester Classes Begin	Tuesday, January 14, 8:00 A.M.
Deadline to Apply for Graduation	Friday, January 18
Martin Luther King, Jr.'s Birthday	Monday, January 21
Deadline to Drop a Class and Receive a Refund	Friday, February 1
President's Day Holiday	Monday, February 18
Spring Vacation	Saturday, March 9, 12:00 NOON —Monday, March 18, 8:00 A.M.
Deadline to Drop a Class	Monday, March 18
Final Examinations	Monday, May 6—Friday, May 10
Commencement	Saturday and Sunday, May 11-12

Summer Session, 1991 (Tentative)

Eight-Week Session Begins	Monday, June 10, 7:30 A.M.
Deadline to Apply for Graduation	Friday, June 14
Deadline to Drop an Eight-Week Class and Receive a Refund ...	Friday, June 21
Independence Day Holiday	Thursday, July 4
Deadline to Drop a Class	Monday, July 8
Final Examinations	Thursday and Friday, August 1-2
Commencement	Saturday, August 3

Excused Absences for Religious Holidays.—Students absent from classes because of required observances of major religious holidays will be excused. It is the student's responsibility to notify the instructor of each class that will be missed in advance of the absence. Students must also take the responsibility for making up work missed.

Deans of Colleges and School

James A. Tweedy, College of Agriculture, Agriculture Building
Thomas Gutteridge, College of Business and Administration, Rehn Hall
Keith R. Sanders, College of Communications and Fine Arts, Communications
Building
Donald L. Beggs, College of Education, Wham Education Building
Juh Wah Chen, College of Engineering and Technology, Technology Building
Anthony Cuvo, (*Acting*), College of Human Resources, Quigley Hall
Peter Goplerud III, (*Interim*), School of Law, Lesar Law Building
John S. Jackson III, College of Liberal Arts, Faner Hall
Kenneth G. Peterson, Library Affairs, Morris Library
Richard H. Moy, School of Medicine, Wheeler Hall
Russell R. Dutcher, College of Science, Neckers Building
Harry Miller, College of Technical Careers, School of Technical Careers
Building

1 The Graduate School

Southern Illinois University

Southern Illinois University has entered its second hundred years of teaching, research, and service. At the outset of the 1970's, Southern Illinois University became a single state system with two universities: Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville. Southern Illinois University at Carbondale also has a medical school campus at Springfield.

Southern Illinois University at Carbondale (SIUC) first operated as a two-year normal school but in 1907 became a four-year, degree-granting institution. In 1943 SIUC was transformed from a teacher-training institution into a university, thus giving official recognition to the area's demand for diversified training and service. Graduate work was instituted in 1943, with the first doctoral degrees granted in 1959. There has been diversification and expansion of graduate programs across the University through the Colleges of Agriculture, Communications and Fine Arts, Education, Business and Administration, Human Resources, Liberal Arts, Science, and Engineering and Technology. In addition to expansion of programs within the Graduate School, professional schools were established in medicine and law in 1969.

In keeping with the state's master plan, the University's objective is to provide a comprehensive educational program meeting as many individual student needs as possible. While providing excellent instruction in a broad range of traditional programs, it also helps individual students design special programs when their interests are directed toward more individualized curricula. The University comprises a faculty and the facilities to offer general and professional training ranging from two-year associate degrees to doctoral programs, as well as certificate and nondegree programs meeting the needs of persons not interested in degree education.

Enrollment

In fall semester 1988, out of a total enrollment of 23,634, SIUC had 3,508 and 593 registered graduate and professional students respectively.

Location

Carbondale is approximately 100 miles southeast of St. Louis, Missouri. Immediately south of Carbondale begins some of the most rugged and picturesque terrain in Illinois. Sixty miles to the south is the historic confluence of the Ohio and Mississippi rivers, the two forming the border of the southern tip of Little Egypt, the fourteen southernmost counties in Illinois. Within ten miles of the campus are located two state parks and four recreational lakes and much of the area is a part of the 240,000 acre Shawnee National Forest.

Campus

The Carbondale campus, comprising more than 3,290 acres, has developed a 981 acre portion with woods and a lake as a site for its academic buildings and residence halls. The buildings are located in wooded tracts along two circular shaped campus drives, named for Lincoln and Douglas.

The Graduate School

The primary concerns of the Graduate School are graduate instruction and research. The Graduate School therefore plays an essential role in development of instructional and research programs, in acquisition of funds, and in procurement of facilities necessary to encourage and support research by members of its scholarly community. Through faculty, staff, and students the Graduate School makes its contribution to the public welfare of the region, state, nation, and international community.

The Graduate School offers master's degrees through sixty-two programs, the specialist degree in three areas, and the doctoral degree through twenty-five programs. Graduate students pursue advanced study and research under the leadership of a graduate faculty of over 1000 members. In addition, the Schools of Law and Medicine provide graduate students with additional opportunities in instruction and research. The Graduate School administers programs in the Colleges of Agriculture, Business and Administration, Communications and Fine Arts, Education, Engineering and Technology, Human Resources, Liberal Arts and Sciences, and Technical Careers, and the Schools of Law and Medicine.

Within these colleges and schools are departments whose distinguished faculty offer inspired teaching, conduct innovative research, and facilitate student services from admission to placement. In addition to the excellent research conducted in the colleges and schools, SIUC operates a number of research centers, most of which have been established with the aid of outside funding. These centers are described below.

The Center of Archaeological Investigations: closely associated with the Department of Anthropology, the Center for Archaeological Investigations has research activities in the American Midwest and Southwest, Mexico, and the western Pacific. Funding is provided by state and federal agencies, and private institutions. The center also conducts archaeological research for firms and government agencies which are required to comply with environmental and antiquities laws. A collection representing 20 years of research makes it the largest archaeological repository in the region. The center conducts an annual field school, provides thesis and dissertation data, and research opportunities for numerous students of archaeology.

Coal Extraction and Utilization Research Center (CEURC): the CEURC was established by the state of Illinois at SIUC in 1974 to stimulate and coordinate activities addressing the coal research needs of the state and nation. Over 100 SIUC faculty and 250 graduate students are now involved in this multidisciplinary effort involving both basic and applied research. The CEURC assists faculty in developing research in the following broad areas: coal science, coal conversion, coal preparation, coal utilization, mining, and reclamation. In addition, CEURC is involved with the management of several research and service-oriented activities. Prominent among these is the SIUC Coal Technology Laboratory, which focuses on developing technologies for desulfurizing bituminous coal. CEURC also administers the Illinois Mining and Mineral Resources Research Institute, a research and scholarship program, and the National Mine Land Reclamation Center, Midwest Region, a research

and technology transfer program that addresses regional reclamation issues. In addition, the CEURC plays an important role in the Illinois Coal Development Board/Center for Research on Sulfur in Coal program at SIUC. These activities exceed three million dollars in annual awards and make a significant contribution to SIUC's coal research, education, and service mission.

Cooperative Wildlife Research Laboratory: since its founding in 1951, the laboratory has achieved a distinguished record training graduate students in basic and applied principles of vertebrate ecology and wildlife biology. It is the only such comprehensive program in Illinois, and it is recognized as among the premier programs in the nation. Independent, cooperative, and collaborative research supported by industry, foundations, and state and federal agencies lead to better understanding and management of natural resources. The laboratory has pioneered in the reclamation and enhancement of mined lands for the benefit of various resources; and, the current efforts provide unique research and training opportunities. Other areas of acknowledged laboratory expertise include the biology and ecology of game, endangered, and nongame wildlife; aspects of land use and the impact on wildlife resources; avian physiological ecology, environmental toxicology, and the epizootiology of zoonotic and other diseases in wildlife. More than 20 projects directed by laboratory staff currently afford graduate fellows and research assistants broad and varied research opportunities. These activities exceed \$500,000 each year in contracts and grants, resulting in significant contribution to academic needs of students and staff and requests for service by state, federal, and private agencies.

Cooperative Fisheries Research Laboratory: graduate research in fisheries is conducted through the Fisheries Research Laboratory. Graduate study in fisheries, culminating in the Master of Science, Master of Arts, or Doctor of Philosophy degree, is offered in the Department of Zoology. Research activities include studies in both fish management and aquaculture. Emphases include warmwater, coolwater, and coldwater fishes native to Illinois. There are also opportunities to work with exotic species of fishes and shellfishes, both freshwater and marine, particularly through the international program which has been developed in recent years. Some of the areas of research stressed are tropic ecology, water quality, pond culture, tank culture, polyculture, culture system development, nutrition, fish physiology, fish genetics, utilization of nursery areas, introduction of forage fishes as a management tool, introduction of non-native sport fishes, ecology of larval fishes, age and growth studies, introduction of hybrid fish species, utilization of power plant cooling lakes, and population dynamics. Facilities in the Fisheries Research Laboratory include offices, well equipped laboratories, aquarium rooms, culture ponds, a greenhouse for hydroponic and recirculating water system studies, and storage buildings. A new 8,300 square-foot wet-laboratory building has just been completed.

Materials Technology Center: the Materials Technology Center was established as a part of a high-technology thrust by the state of Illinois for the purpose of promoting economic growth in the state by (1) stimulating traditional industries to develop and utilize new materials and advanced materials technology, and (2) attracting to Illinois high-technology industries that wish to develop and manufacture new materials and to create new techniques for using materials.

The Materials Technology Center was established in 1983 on the campus of SIUC as the direct result of a 1983 recommendation of the Governor's Commission on Science and Technology of the State of Illinois. Its function is to stimulate and coordinate research in the materials sciences carried out by the faculty of SIUC. A major goal is to use the results of the research to support industrial spin-offs and hence strengthen the economic posture of Southern Illinois and the region.

The major ongoing thrust involves composite materials research: carbon fiber investigations which involve pitch fiber spinning, modeling, microstructural studies and precursor research; composites fabrication which includes process modeling, interfacial studies and characterization; property testing which includes investigations into creep, fracture, delamination and tribology; oxidation studies and the development of protective coatings for carbon-carbon composites. Smaller thrust areas involve the development of amorphous coatings for corrosion resistant metal structures, and investigations into high performance magnetic materials. The total program of the center provides an opportunity for the students and staff of SIUC to participate in a research experience of vital importance to the local region, the state, and the nation.

The Graduate School, as a part of SIUC, is fully accredited by the North Central Association of Colleges and Secondary Schools. Other accreditations and affiliations include:

Accreditation Board for Engineering and Technology, Inc.

Accreditation Council of the American Assembly of Collegiate Schools of Business (undergraduate and master's level programs)

American Association for Accreditation of Laboratory Animal Care

American Association of Museums (University Museum)

American Bar Association

American Chemical Society

American Council on Education in Journalism and Mass Communication

American Dietetic Association

American Institute of Professional Geologists

American Psychological Association (Counseling and Clinical Psychology)

American Speech and Hearing Association by American Board Examiners in Speech Pathology and Audiology

Association of American Law Schools

Association of Research Libraries

Commission on Accreditation of Rehabilitation Institutes (Evaluation Development Center)

Community Development Society

Council on Rehabilitation Education (Rehabilitation Counseling Program)

Council on Social Work Education

Federal Aviation Administration (Aviation Maintenance Technology, Aviation Flight, Avionics Technology, and the Airway Science Curriculum)

Illinois Office of Education

Superintendent of Education

State Board of Education

State Teacher Certification Board

Liasion Committee on Medical Education of the American Medical Association and Association of American Medical Colleges

National Athletic Trainers Association

National Association of Schools of Art and Design

National Association of Schools of Music

National Association of Schools of Public Affairs and Administration

National Council for Accreditation of Teacher Education

National Recreation and Parks Association (National Accrediation Council)

Society of American Foresters

University Council for Vocational Education

Western Association of Schools and Colleges

Office of Research Development and Administration

The Office of Research Development and Administration (ORDA) is the University administrative unit primarily responsible for research administration and development. The functions of the office divide into two major categories.

One is concerned with activities that are funded by federal, state, and local governments as well as by foundations, private industry, and other external funding sources. The second major category is the internal research program which is supported with state funds.

The ORDA staff provides a number of services for faculty and students who desire to submit proposal applications to funding agencies. Included are a resource library which contains guidelines for the various funding sources, application forms, plus consultation and assistance in proposal and budget preparation.

RESEARCH SHOPS AND SERVICES

To further assist faculty researchers, ORDA operates nine support service units for their use. The *Central Research Shop* is a facility which designs, repairs, and constructs special equipment. The *Research Photography and Illustrations Unit* offers consultation and technical assistance to those in need of scientific photography as an integral part of their research. The central animal facility or *Vivarium* is maintained under the direction of a veterinarian to insure proper and humane care and management of animals. The *Center for Electron Microscopy* houses two scanning and two transmission scopes, as well as other related equipment. The *Fine Instruments Research Shop* has two components: *electrical* and *mechanical*. This shop provides consultation, design, and fabrication of sophisticated electronic and mechanical instruments. The *Glassblowing Research Shop* provides design and fabrication of glass apparatus. The *Machine Research Shop* provides design and fabrication of materials demanding medium and large machining capabilities. The *Amino Acid Analyzer* provides amino-acid analyses of samples of both physiological and hydrolysate nature. The *Fourier Transform-Nuclear Magnetic Resonance (FT-NMR)* facility provides NMR spectra for a number of magnetically active nuclei.

Associations

OAK RIDGE ASSOCIATED UNIVERSITIES

The University is a member of the Council of Sponsoring Institutions of Oak Ridge Associated Universities (ORAU), a not-for-profit consortium of 49 colleges and universities and a management and operating contractor for the U.S. Department of Energy with principal offices located in Oak Ridge, Tennessee. Founded in 1946, ORAU identifies and helps solve problems in science, engineering, technology, medicine, and human resources. ORAU conducts research and educational programs in energy, health, and the environment for DOE, ORAU's member institutions, other colleges and universities, and other private and governmental organizations.

ORAU manages competitive programs to bring students at all levels, precollege through postgraduate, as well as university and other faculty members, into federal and private research laboratories. Recipients of fellowships and research grants are selected by ORAU and the facilities in which appointments are served, which may include Oak Ridge National Laboratory; the Atmospheric Turbulence and Diffusion Division in Oak Ridge; Savannah River Laboratory and Savannah River Ecology Laboratory in Aiken, South Carolina; the Center for Energy and Environment Research in Rio Piedras and Mayaguez, Puerto Rico; the Morgantown, West Virginia, and Pittsburgh, Pennsylvania, Energy Technology Centers; the U.S. Bureau of Mines Pittsburgh Research Center; and the National Center for Toxicological Research at Jefferson, Arkansas.

Many programs in ORAU's Institute for Energy Analysis; Medical and Health Sciences Division; Manpower Education, Research, and Training Division; Special Projects Division; and University Isotope Separator at Oak Ridge

(UNISOR) are also open to participation by qualified students and faculty members.

Of particular interest are short, specialized courses for scientists, engineers, educators, and students in nuclear-related fields developed and conducted by ORAU's professional training programs. For additional information, contact the Graduate School.

INTERNATIONAL BUSINESS INSTITUTE

The College of Business and Administration's International Business Institute's primary objective is to promote world-wide excellence in education, research, and service in the arena of international business. Working to meet this goal, the institute strives to increase our awareness of the global environment of business and to promote greater expertise in managing that environment through the following activities.

International Linkages. Provides technical assistance, workshops, and conferences to assist Illinois businesses with their international development and export efforts, and assisting overseas firms seeking to expand their commercial relationship with Illinois businesses.

Business and Economic Development. Provides management training and executive development seminars on current business and managerial topics for managers in Illinois and in countries throughout the world.

Management and Executive Development. Provides management training and executive development seminars on current business and managerial topics for managers in Illinois and in countries throughout the world.

Research. Provides support for and facilitating research, domestically and abroad, on current problems in all areas of international business, with special emphasis on creative, realistic solutions to modern business problems.

Institutional Development. Provides technical assistance to overseas academic institutions in the development of curriculum and course materials, the training of faculty, and consulting with administrators.

Facilities and Services

Morris Library

Morris Library contains over 2,000,000 volumes and subscribes to nearly 14,300 current serials. In addition the library has an extensive collection of maps, manuscripts, rare books, government documents, phonograph records, and about 2,400,000 units of microform materials. The collection is arranged into four subject divisions (education/psychology, humanities, science, and social studies) as well as a separate Undergraduate Library. Special Collections consists of rare books, historical archives, and University archives. Among the many materials are important research collections in American and British expatriate literature, twentieth century philosophy, proletariat theatre, the Irish literary renaissance, and press freedom. Morris Library serves as a depository of federal, state, and U.N. documents. A major source for research in the behavioral and social sciences is the Human Relations Area files, consisting of copies of documents, books, articles, and manuscripts covering many world cultures. Supplementing the resources of Morris Library is the Center for Research Libraries (Chicago), in which the University holds membership. Morris Library is a member of the Illinois Library Computer System

(LCS), a state-wide automated circulation system which is being developed as the library's on-line catalog. A computer-based interlibrary loan system serves to identify material in other libraries and to transmit requests for items. On-line computer-based bibliographic search capabilities using hundreds of data bases are available. Students and faculty may use and borrow library materials from the other state-supported universities in Illinois. A wide range of instructional development, research, and evaluation services, video, photographic and graphic production films and video materials, and related equipment is provided by Learning Resources Service. A separately housed law library may be used by the University community as well.

Computing Affairs

Computing Affairs operates a general purpose computing facility which provides related computer services and support to the University academic, research, and administrative communities. The academic and research needs of faculty and students are supported through a wide variety of systems, programming languages, and software packages; through on-line information and staff support pertinent to access procedures, operating guidelines, technical assistance, and documentation; and through a program of periodic noncredit instruction in computing topics.

Facilities available include an IBM 3081-GX running VM/CMS and an IBM 3090-150E with vector processor running MVS. These systems have access to 48 and 64 megs of memory, 40 billion bytes on on-line disk, four tape reel units, six tape cartridge units, 4,000 line per minute print capacity, three 20 page per minute laser printers, and SNA 3270 communications network with over 1400 interactive devices, BITNET and NSFNet connections, and a campus area network based upon fiber optics in Phase I status. Special features of the computer learning centers are instructional laboratories equipped with 120 full screen terminals, 140 microcomputers and associated peripherals.

Placement Services of the University Placement Center

The University Placement Services assists students and alumni seeking career employment. Maximum benefit from the services is assured for students who file their resumes approximately one semester prior to graduation. Alumni should periodically update their resumes which are placed on file for ten years. All inquiries concerning this service should be made to the University Placement Center office.

Housing

On-Campus Housing. Double occupancy housing is available in residence halls for single graduate students. All contracts will be for room and board.

University-owned housing for married students includes 304 unfurnished twoor three-bedroom air-conditioned apartments and 272 furnished efficiency oneor two-bedroom air-conditioned apartments. Because the demand for university housing for married students exceeds the supply, information should be requested early from University Family Housing, Building B, Washington Square.

Off-Campus Housing. The Off-Campus Housing Office, Building B, Washington Square, maintains current information on off-campus rooms, apartments, houses for rent, or for sale, and trailer parks. Experience has shown that satisfactory arrangements cannot be made by mail. A personal visit is usually required. Prices vary widely, ranging from \$90 a month for trailer spaces to \$350 a month or more for houses and apartments. All arrangements for off-campus housing and all business transactions in the

matter of this type of housing are the sole responsibility of the student and the owner of the facility.

International Programs and Services

International Programs and Services is an administrative unit within academic affairs and reports to the associate vice president for academic affairs and research services. The unit is composed of three divisions: International Students and Scholars, International Development, and Study Abroad Programs. Community Programs, which represents the local, regional, and state outreach effort of the University in international affairs, is an important subdivision of the International Students and Scholars division.

International Students and Scholars

The International Students and Scholars division provides comprehensive programs and services for international students and scholars from pre-arrival correspondence to post-graduate concerns. These programs and services include processing of financial clearance for admission, serving as liaison with foreign governments and sponsoring agencies, providing certification for foreign currency exchange, and other needs. This office has been designated by the U.S. Immigration and Naturalization Service (INS) as having the official responsibility for interpretation and adherence to INS laws and regulations as they apply to non-immigrant students and faculty. Also designated responsible officers administer proper compliance with the USIA Exchange Visitor Program for the University. Assistance with INS regulations, forms, and procedures is provided to all non-immigrants related to University and broader community affairs.

Integral educative services include orientation programs, arrival and housing assistance, personal counseling and referral, a *Handbook for International Students and Faculty*, a newsletter (The International Dateline), advisement of international student associations, and a preparation for going home seminar.

Special programs which promote an international dimension of cross-cultural exchange to the broader community are provided. An annual International Festival and various national day celebrations are held. The Community Programs subdivision in cooperation with the International Friends Club coordinates a Host Family Program, International Speakers' Bureau, English in Action, Language Exchange, American and International Cooking Exchange, an International Spouses Group, and a Loan Closet.

The International Students and Scholars division is located at 910 S. Forest (618-453-5774).

International Development

The International Development division provides University-wide leadership, coordination, and support for a wide variety of developmental activities. These activities include research and dissemination of information, an international resource library, grants and projects, inter-institutional linkages, international visitors and protocol, and public relations. Other developmental activities such as international student recruitment and alumni are carried out in cooperation with Admissions and Records and Alumni Services.

Assistance is provided in the exploration of ideas, identification of funding sources, proposal development, contract negotiations, campus coordination and follow-up activities.

The International Development division is located at 803 S. Oakland (618-453-5774).

Study Abroad Programs

The Study Abroad division coordinates services for American students and

faculty, including international grant programs, exchanges, and study abroad programs. It is the central referral point for information on the student and faculty Fulbright programs and on the British Marshall, International Research and Exchanges Board (IREX), Belgian-American Educational Association, and Rhodes scholarships. Graduate students may also participate in inter-university international exchange programs and in travel study programs offered during the summer and intercession periods under the auspices of this division.

The Study Abroad Programs division is located at 803 S. Oakland (618-453-5774).

Student Health Program

The Student Medical Benefit (SMB) fee provides funding for an extensive health program. On-campus services include the wellness programs, out-patient care, laboratory services, x-rays, a pharmacy, emergency dental services, and a sports medicine program. Off-campus benefits include emergency services, hospitalization, specialty care, and out-of-area benefits.

The Student Health Program is located in Beimfohr and Kesnar Halls and is open 8:00 A.M. to 4:30 P.M. Monday through Friday. Students in need of emergency care when the Health Service is closed, should call the Dial-A-Nurse program, 536-5585 for health care advice or help in deciding whether you need to go to the Memorial Hospital of Carbondale emergency room. If an ambulance is required, students should call the Jackson County Ambulance Service at 618-684-5678.

Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of portions of the student medical benefit fee. Refunds of the fee are made on the basis of comparable or duplicate coverage for each area of service. Students who think they may qualify for a refund may apply no later than the end of the third week of each semester by contacting the administration office—insurance section of the Student Health Program. When applying, students should provide a copy of their insurance policy.

Optional coverages are also available for dependents and excess supplemental coverage. Details and prices for these policies are available and must be purchased in the first three weeks of the semester. Information is available from the Student Health Program Insurance office, Room 118 of Kesnar Hall, Small Group Housing (618-453-3311).

Disabled Student Services

The University maintains a commitment to make all services, programs, and facilities available to students with disabilities. Numerous services are provided to disabled students through the Disabled Student Services office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Services and programs include preadmission planning, orientation, adapted van transportation, wheelchair repair, attendant recruitment and referral, adapted recreation, interpreters and note takers for hearing impaired students, specialized materials and equipment for visually handicapped students, reader and tutor recruitment and referral, proctoring academic examinations, consultation with faculty, accessible housing referral, special parking, and liaison with agencies such as the Illinois Department of Rehabilitation Services. The campus is quite accessible and usable by students using wheelchairs, visually impaired, hearing impaired, learning disabled, and other permanently disabled students. The University Housing office also provides modified housing facilities in the Thompson Point Residence Halls

and in the family housing areas. Prospective and newly admitted students should contact Disabled Student Services for information.

Women's Services

Women's Services, a component of the Counseling Center, is designed to meet the special needs of women from the University and the surrounding community. Staff members are available to provide information and support for women making educational, vocational, and personal decisions. Some of the services provided by Women's Services include resource and referral information, outreach workshops, seminars by request, and support and therapy groups for women. A newsletter is published several times throughout the semester which focuses on specific issues of interest to women living in today's changing world. In addition, a library is available which contains books, journals, and periodicals on topics that may assist individuals in their research and/or personal growth. Short term counseling is also available to the individual in need of support and assistance.

The Re-Entry program provides special supportive services to women returning to the University or beginning college for the first time after a period in the work force or at home. Women's Services aids in her transition to the University environment by offering information on child care, housing, financial aid, and other issues of concern to the returning student. Support groups and social activities are also made available to facilitate the student's success and growth in school.

Women's Services also houses the office of the Campus Safety Representative. Responsibility is assumed for the coordination and monitoring of the Night Safety Vans, Women's Transit System, the Brightway Path, and the women's self defense classes as part of campus safety and rape prevention activities. Prevention education is available for individuals, residence halls, classes, and groups upon request.

Women's Services is located in B-244 Woody Hall, (618-453-3655). Walk-ins are always welcome.

The University Ombudsman

The University Ombudsman is an independent and impartial University agency directly responsible to the president. The mission of the University Ombudsman is to assist members of the campus community to resolve questions respecting their rights. Students, faculty, administrative/professional, and civil service staff are encouraged to contact the University Ombudsman office for assistance when experiencing difficulties as a result of adverse administrative decisions, conflicts with others, or confusion about University rules and procedures. Located in Woody Hall, the office maintains up-to-date information files on University policies and procedures. All contacts made are confidential.

The University Ombudsman office solves a broad range of problems and conflicts. Even the most serious controversies can often be resolved through mediation. The basic work of the office also generates information serving to identify recurring problem areas or emerging ones. These may result from changes in University policies and procedures, internal adjustments, consolidations, or responses to changing needs. They may also result from exogenous shocks such as changes in financial aid, enrollment, demographics, or other stresses. The University Ombudsman reports to the president and administrators regarding this knowledge, both regularly and irregularly, in the interest of the efficient functioning of the University (618-453-2411).

Graduate Degrees Offered

The Graduate School offers the master's, Master of Fine Arts, specialist, Doctor of Philosophy, Doctor of Rehabilitation, and Doctor of Business Administration degrees. In several of the programs listed below, one or more concentrations are available.

Master's Degrees

Master's degrees are available in the approved programs listed below:

Abbreviations: Master of Accountancy, M.Acc.; Master of Arts, M.A.; Master of Business Administration, M.B.A.; Master of Music, M.M.; Master of Public Affairs, M.P.A.; Master of Science, M.S.; Master of Science in Education, M.S.Ed.; Master of Social Work, M.S.W.

Accountancy	M.Acc.	Forest Resource Management	
Information Systems		Outdoor Recreation Resource Management	
Taxation		Wood Science and Technology	
Administration of Justice	M.S.	Geography	M.A., M.S.
Agribusiness Economics	M.S.	Physical Environmental Systems	
Agribusiness Economics		Resource Management Systems	
Agricultural Services		Urban and Regional Planning	
Agricultural Education and Mechanization	M.S.	Geology	M.S.
Agricultural Education		Health Education	M.S.Ed.
Agricultural Information		Community Health Education	
Agricultural Mechanization		Industrial Health	
Animal Science	M.S.	Safety Education	
Anthropology	M.A.	School Health Education	
Conservation Archaeology		Higher Education	M.S.Ed.
Applied Linguistics	M.A.	Academic Administration	
Behavior Analysis and Therapy	M.A., M.S.	College Student Personnel	
Biological Sciences	M.S.	Community and Junior College Teaching	
Botany	M.A., M.S.	Fiscal Affairs Administration	
Business Administration	M.B.A.	History	M.A.
Information Systems		American	
International Business		European	
Chemistry	M.S.	Latin American	
Communication Disorders and Sciences	M.S.	Journalism	M.A., M.S.
Community Development	M.S.	Manufacturing Systems	M.S.
Computer Science	M.S.	Mathematics	M.A., M.S.
Curriculum and Instruction	M.S.Ed.	Microbiology	M.A.
Economics	M.A., M.S.	Mining Engineering	M.S.
Educational Administration	M.S.Ed.	Music	M.M.
Adult Education		Music History and Literature	
Educational Administration		Music Theory and Composition	
Instructional Supervision		Opera-Music Theater	
Educational Psychology	M.S.Ed.	Performance	
Counselor Education		Piano Education Arts	
Educational Psychology		Pharmacology	M.S.
Engineering	M.S.	Philosophy	M.A.
Civil Engineering and Mechanics		Physical Education	M.S.Ed.
Electrical Engineering		Applied Physical Education	
Mechanical Engineering and Energy Processes		Experimental Physical Education	
English	M.A.	Professional Physical Education	
Composition		Physics	M.A., M.S.
English as a Foreign Language	M.A.	Physiology	M.S.
Foreign Languages and Literatures	M.A.	Plant and Soil Science	M.S.
French		Crop Science	
German		Horticultural Science	
Spanish		Soil Science	
Forestry	M.S.	Political Science	M.A.
		Psychology	M.A., M.S.
		Clinical	
		Counseling	

Experimental
 Public Affairs M.P.A.
 Recreation M.S.Ed.
 Administration of Recreation and
 Park Systems
 Recreation Resources Administration
 Therapeutic Recreation
 Rehabilitation Administration and
 Services M.A., M.S.
 Adjustment Services
 Job Development and Placement

Rehabilitation Administration
 Vocational Evaluation
 Rehabilitation Counseling M.A., M.S.
 Alcohol Specialist
 Social Work M.S.W.
 Sociology M.A.
 Special Education M.S.Ed.
 Speech Communication M.A., M.S.
 Statistics M.S.
 Telecommunications M.A.
 Vocational Education Studies .. M.S.Ed.
 Zoology M.A., M.S.

Master of Fine Arts Degrees

Master of Fine Arts (M.F.A.) degree programs are available in the fields listed below.

Art
 Cinema and Photography

Theater

Specialist Degree

Specialist degree programs are available in the fields listed below.

Curriculum and Instruction
 Educational Administration

Educational Psychology

Doctoral Degrees

Doctor of Philosophy degree programs are available in the fields listed below along with the approved concentrations.

Anthropology
 Botany
 Chemistry
 Communication Disorders and Sciences
 Economics
 Education
 Curriculum and Instruction
 Educational Administration
 Educational Psychology
 Health Education
 Higher Education
 Physical Education
 Special Education
 Vocational Education Studies
 Engineering Science
 English
 Geography
 Physical Environmental Systems

Resource Management Systems
 Geology
 Historical Studies
 Journalism
 Mathematics
 Microbiology
 Molecular Science
 Pharmacology
 Philosophy
 Physiology
 Political Science
 Psychology
 Experimental
 Clinical
 Counseling
 Sociology
 Speech Communication
 Zoology

The Doctor of Rehabilitation degree is offered in rehabilitation.

The Doctor of Business Administration degree is offered in the area of business administration.

Student Responsibility

Students are responsible for knowing degree requirements and enrolling in courses that will enable them to complete their degree programs. It is also their responsibility to know the University regulations for the standard of work required to continue in the Graduate School. For information, consult both the general and specific degree requirements enclosed in this publication. Additional details about requirements and procedures are available from your graduate adviser or the Graduate School.

Degree Requirements

The following section describes Graduate School regulations unique to the master's, the specialist, and the doctoral degrees. For Graduate School procedures and regulations applicable to all graduate students, regardless of degree program, the students should consult the section titled General Regulations and Procedures. For information about specific degree programs, the student should consult the departmental degree program description.

MASTER'S DEGREE PROGRAM

Requirements and admission policies for applicants to a master's degree program are elaborated in the following paragraphs.

Admission

In order to be admitted to a degree program, an applicant must meet Graduate School admission requirements and be approved by the department or degree program concerned.

The Graduate School requires that the applicant hold a bachelor's degree from an accredited institution or have completed all undergraduate degree requirements prior to the beginning of the classes for the term for which admission is sought. The applicant must have earned a grade point average (GPA) of 2.70 or better ($A = 4.00$) on all undergraduate work completed prior to receipt of the bachelor's degree. Applicants to master's degree level study may begin the admissions process when they need no more than 32 semester hours beyond the credit shown on their transcript at the time of application to complete all requirements for the bachelor's degree.

An applicant who is a U.S. citizen or permanent resident and whose GPA is below 2.70 may be admitted as an unclassified student and may later apply to a degree program when 12 or more semester hours of graduate work at SIUC have been completed. A minimum GPA of 3.00 is required in courses for which grades of *A, B, C, D, F* have been assigned.

Any applicant who has completed 12 or more semester hours of graduate work at an accredited U.S. education institution, and who has a GPA of 3.00 or better on all graduate work, may be exempted from the 2.7 undergraduate grade point average requirement.

Any student with fewer than 12 hours of graduate work may be admitted to the Graduate School on the basis of undergraduate GPA only.

General Requirements

Graduate credit earned in graduate courses for which the student has received grades of *A, B, C*, or *S*, and only such credit, is acceptable for master's degree programs. At least 21 semester hours of graduate credit with grades of *A, B*, or *C* must be earned in courses graded *A* through *F*. An overall grade point average of at least 3.00 in all graduate work included in the master's degree program is required before that degree can be awarded.

The Graduate School requires a minimum of 30 semester hours of acceptable graduate credit for the master's degree. Since certain degree programs require more than 30 hours, the student should consult the description of the appropriate program for specific requirements. No more than half of the credit applied toward fulfillment of the master's degree requirements may be earned at other universities and transferred to SIUC.

At least nine hours of course work must be earned in courses taught on the Carbondale campus or in an approved residency center. After admission to the

degree program recommending the awarding of the degree at least nine hours of credit must be earned.

In addition, a minimum of fifteen hours in courses numbered 500 or above must be earned at SIUC.

Candidates for a master's degree are required to pass a comprehensive examination covering all of their graduate work, including the thesis. This examination may be written or oral, or both, as determined by the student's advisory committee.

Time Limits

Only credit earned within a six-year period preceding completion of requirements for the degree, whether at SIUC or elsewhere, will be counted toward the degree. All students must remain registered until completion of their degree. See section Continuing Enrollment Requirement.

Thesis

Each candidate for a master's degree shall write a thesis except where a graduate program has been approved to provide some other arrangement, such as a research paper. The thesis shall be supervised by a committee of at least three members of the graduate faculty and may be counted for not more than six nor less than three semester hours of credit.

Students who have completed all course work and have registered for the minimum number of thesis or research hours required for the degree are subject to the continuing registration requirement described in the section titled General Regulations and Procedures.

Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to the date of graduation, to be bound and shelved in the library. For nonthesis programs, a research paper should show evidence of the student's knowledge of research techniques and should be based on a special project or specific courses as may be recommended by the advisory committee. One copy of the research paper must be filed in the Graduate School at least three weeks prior to the date of graduation.

Double Major for a Master's Degree

A student may earn a double major for a master's degree if such a program of graduate study is commensurate with the student's vocational and professional goals.

A student interested in pursuing a double major for a master's degree must submit to the graduate dean a written statement of justification for the proposed program and a program of study endorsed by the chairman of both of the cooperating units. The forms for submitting a double major program of study are available in the Graduate School office.

Requirements.

1. The student must have been admitted to one master's degree program.
2. Each unit in which the student wishes to earn a major must have an approved master's degree program.
3. The chairman of each unit must endorse the proposed program.
4. The proposed program must specify the title of the degree which is to be awarded.
5. The proposed program must be approved by the graduate dean.
6. At least 18 semester hours must be earned for each major, and one-half of the required course work for each major must be in courses numbered 500 or above.
7. The minimum number of hours required for the double major must total 60 per cent of the sum of the total required for the two majors individually.

- 8. The thesis may be counted for not more than a combined total of 6 nor less than 3 semester hours of credit.

Second Master's Degree

A student may earn a second master's degree if the second degree is offered by an academic unit different from that of the first master's degree. None of the hours used towards any previous degree will be allowed to count as a part of the total number of hours toward a second master's, and all regulations shall apply to the second master's degree exactly as they would if this were a first master's degree.

Summary of Master's Degree Requirements

At least 30 hours of graduate credit, or the minimum number of hours required by the specific degree program.

Grade point average of at least 3.00.

At least 15 hours in courses numbered 500 or above, which must be completed at SIUC.

At least 9 hours after admission to the degree program.

At least 21 hours of graduate course work graded *A*, *B*, or *C*.

At least one-half of the required number of hours earned at SIUC.

Courses to be applied to the degree taken within six years of conferring the degree.

Transfer credit taken at another institution or as an unclassified student approved by the dean of the Graduate School.

Two copies of an approved thesis or one copy of an approved research paper turned in to the Graduate School (not applicable for M.B.A. program).

Comprehensive or oral examination.

Submission of departmental clearance form.

Register for 601 Continuing Enrollment.

SIXTH-YEAR SPECIALIST DEGREE PROGRAM

The sixth-year specialist degree program is for qualified students who wish to pursue a specialization in an educational field. The student must hold a master's degree or its equivalent as determined by the specific department. Sixth-year courses of study are offered in the professional education areas of curriculum and instruction, educational administration, and educational psychology.

Admission

Students seeking admission to the sixth-year specialist degree program follow the same procedures that apply for admission to other graduate programs. Admission to the sixth-year specialist degree program requires a grade point average of 3.25 (*A* = 4.00) for all previous graduate work. Faculty of a degree program-unit may add its own grade point average requirements (above the Graduate School minima) for admission to that particular program. The student's previous work shall have provided a proper base of general and special preparation for the sixth-year studies; if this is lacking, additional work must be taken to establish this base. Two years of experience relevant to the specialized field are required.

General Requirements

A minimum of 30 semester hours of work beyond the master's degree or its equivalent must be completed with a minimum grade point average of 3.25. An advisory committee of three members for each candidate shall be appointed by the dean of the Graduate School upon the recommendation of the chairman of the respective department. The student's work must be planned early by the student with the advisory committee and must clearly lead toward the specialization sought. No more than 15 hours earned for work done on campus at another

university (for this purpose Southern Illinois University at Edwardsville is considered to be another university) or in extension from SIUC, or any combination of the two, may be counted toward the degree.

A field study is required of each candidate for the specialist degree. A written report of the field study is to be submitted to the student's advisory committee before a final oral examination. After the advisory committee approves the field study report, one copy will be forwarded to the Graduate School to be placed in Morris Library.

All credit must have been earned within seven years prior to completion of the program. All students must remain registered until completion of their degree. See section Continuing Enrollment Requirement.

The residency requirement is fulfilled by enrollment for at least eight semester hours in a single semester or at least six semester hours in each of two terms (semesters or summer session of at least eight weeks duration). Credit earned in an educational specialist's degree program may, upon the approval of the student's doctoral committee and college, count toward a Ph.D. degree in education but it can not be considered as part of the residency requirement.

It should be noted that the admissions process is slightly different for unclassified (nondegree) and international students and such students should note the paragraphs at the end of this section.

DOCTORAL DEGREE PROGRAM

All Graduate School requirements for the Doctor of Philosophy degree also apply to other doctoral degree programs under the jurisdiction of the Graduate School.

Admission

Admission to a doctoral program in the Graduate School normally requires a master's degree or its equivalent, a grade point average in graduate work of at least 3.25, and acceptance by the academic unit offering the doctoral program. Faculty of a degree program-unit may add its own grade point average requirements (above the Graduate School minima) for admission to that particular program. Direct post-baccalaureate degree entry is possible upon recommendation of the department and acceptance by the Graduate School. An applicant to doctoral level study may begin the admission process when the applicant needs no more than 16 additional semester hours (24 quarter hours) beyond the credits shown on the transcript at the time of application to complete all requirements for the master's degree. The graduate dean informs each student of any conditions for admission imposed by the Graduate School or by the academic unit.

Accelerated Entry into a Doctoral Program

Applicants with exceptional research potential or outstanding academic preparation may have the option to enter a doctoral program after one semester as a master's level student. Not all departments participate in the accelerated entry option; there, the interested applicant should contact the appropriate department.

The student initially must be admitted into a master's level program. After at least one semester and evidence that the applicant is prepared to begin research at the doctoral level and meets other departmental criteria for accelerated entry, the department may recommend admission directly into the doctoral program. The student must also meet the doctoral admission requirements including the minimum 3.25 grade point average for all graduate work.

It should be noted that course work to be applied toward residency does not begin until after admission into the doctoral program.

General Requirements

The doctoral degree is awarded for high accomplishment in a particular discipline

or a recognized interdisciplinary area, as measured by the student's ability to pass the preliminary examination for admission to candidacy, meet the research tool requirement of the program, perform a piece of original research, present the results in proper form in a dissertation, and defend the dissertation before a faculty committee. Except for the hours required to meet residency, there is no Graduate School requirement that a certain number of semester hours be taken for the doctorate although some degree programs do require a certain number of semester hours. Graduate work completed at another institution may be eligible for transfer to the student's doctoral program, subject to Graduate School regulations regarding transfer of credit and acceptance by the student's major department.

No doctoral level residence-credit program may be established off campus, although course work involved in a doctoral program may be taken at an off-campus residence center provided that the full, normal requirement of residence on campus at SIUC is met under the usual Graduate School standards for doctoral programs.

Preliminary Examination

The student will generally prepare for this examination through independent study and course work, as advised by the faculty of the doctoral program. The examination is given to determine the breadth and depth of the student's knowledge within the discipline. The particular form and content of the examination are determined by the faculty of each of the doctoral programs. The student will be permitted to take the preliminary examination at the discretion of the department, after having completed two years of full-time study or its equivalent beyond the baccalaureate.

Research Tool Requirement

The doctorate at SIUC is a research-oriented degree. The research tool requirement is intended to be an integral part of the student's program. Since research materials, problems, and techniques vary from discipline to discipline, the details of the research tool requirement are determined by the faculty of each of the doctoral programs.

Residency

The residency requirement for the doctorate must be fulfilled after admission to the doctoral program and before formal admission to doctoral candidacy. The residency requirement is satisfied by completion of 24 semester hours of graduate credit on campus as a doctoral student within a period not to exceed four calendar years. No more than six hours of deferred dissertation credit may be applied toward fulfillment of the 24 semester hours residency requirement. No doctoral student will be permitted to sign up for more than six hours of dissertation until candidacy has been achieved. Any dissertation hours registered for above the six permitted prior to candidacy will not be counted toward completion of the doctoral degree. Credit earned in concentrated courses or workshops may apply toward fulfillment of the residency requirements if the student is concurrently registered for a course spanning the full term. No more than six semester hours of short course or workshop credit may be applied to the 24 semester hours residency requirement.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon recommendation of the faculty responsible for the student's program, after the student has fulfilled the residency requirement for the doctoral degree, passed the preliminary examination, and met the research tool requirement of the program. The doctoral degree may not be conferred less than six months after admission to candidacy, except upon approval of the dean of the Graduate School. The candi-

date must fulfill all requirements for the degree within a five-year period after admission to candidacy. If completion of requirements is delayed beyond five years, a student may be required to take another preliminary examination and be admitted to candidacy a second time. All candidates must remain registered until completion of their degree. See section Continuing Enrollment Requirement.

Dissertation

After being admitted to candidacy, the student must complete a dissertation showing that the student is capable of independent research or other creative effort. The dissertation shall be supervised by a faculty committee which has been approved by the dean of the Graduate School. Unless the graduate dean has approved an exception requested by the student's academic unit this committee shall consist of five graduate faculty members, at least one of whom shall be from a graduate program outside the student's academic unit. The student's academic unit shall be understood to mean the department (or equivalent units) and any member outside the department is eligible to serve as the outside member providing that the department and the graduate dean agree.

While working on the dissertation, the student must register for the course numbered 600. The student is to devote at least one academic year of full-time work to complete the dissertation and will register for 24 semester hours of dissertation credit, for example, 12 hours for each of two terms.

Students who have registered for 24 semester hours of dissertation credit and have not completed the doctoral dissertation are subject to the continuing enrollment requirement described in the section titled General Regulations and Procedures.

Publication of the doctoral dissertation to insure its availability to the scholarly community is considered an integral part of the process of doctoral education. Students are encouraged to have their dissertations microfilmed by University Microfilms. Alternate methods of publication may be approved by the graduate dean if the dissertation is to be published within a reasonable period of time. Such publication must be in a relatively permanent form, without substantial alterations, and be available to the scholarly community. In either case, an abstract of the dissertation will be published in *Dissertation Abstracts International*.

The student must submit two copies of the dissertation acceptable to the Graduate School, along with an abstract of 350 words or less. Unless prior approval is granted for another form of publication, all dissertations will be microfilmed. There is a fee of \$55.00 to cover the cost of publication of the abstract and microfilming of the dissertation. If an alternate form of publication has been approved the fee is \$45.00 to cover the cost of publication of the abstract. If copyright is desired, an additional fee of \$25.00 will be required. The microfilming agreement form and the survey form of earned doctorates are completed in the office of the Graduate School at the time the dissertation is submitted.

The abstract will be published in the current *Dissertation Abstracts International* and the dissertation will be cited in *American Doctoral Dissertations* and *Comprehensive Dissertation Index*. A copy of the microfilmed dissertation will be placed in the Library of Congress archives. This service assures the student that the dissertation will be available to other researchers at no further personal expense to the student.

If the student elects to use the copyright service, copyright will be obtained in the student's name. Publication rights, other than for reproduction in microform or from microform, are the student's to assign to any publisher at any time. In addition, arrangements can sometimes be made for University Microfilms to publish a small edition of the dissertation.

Final Examination

There will be a final oral examination administered by the student's doctoral

dissertation committee. The examination will cover the subject of the dissertation and other matters related to the discipline. Any member of the graduate faculty may attend the final oral examination and may participate in questioning and discussion, subject to reasonable limitations imposed by the chairperson of the committee, but only members of the committee may vote or make recommendations concerning acceptance of the dissertation and final examination. A student will be recommended for the degree only if the members of the committee, with at most one exception, judge both the dissertation and the performance at the final oral examination to be satisfactory. In cases where a committee of more than five members has been approved, the requirement of not more than one negative vote will still apply.

Interdisciplinary Doctor of Philosophy Programs

These guidelines provide for interdisciplinary doctoral programs for a limited number of students whose educational requirements can be met by existing resources, but not exclusively by any one of the University's constituent units. Interdisciplinary doctoral programs will be instituted in response to the particular academic interest of individual students, not as programs of a permanent nature. The procedures and criteria given below govern the authorization and control of interdisciplinary doctoral programs.

1. After admission to an established doctoral program at SIUC and upon the recommendation of the chairperson or adviser of that program, a student may apply for an interdisciplinary doctoral program to the dean of the Graduate School.
2. The dean of the Graduate School will apply the following criteria in deciding whether a program committee should be established to consider the proposed interdisciplinary doctoral program.
 - a. The requisite staff must be available.
 - b. The library holdings must be adequate without unreasonable additions.
 - c. The program must lie within the recognized disciplines or fields of study, at least one of which offers the doctoral program.
3. If the dean of the Graduate School is satisfied that the proposed program satisfies these criteria, the dean shall form a special program committee of five members, at least three of whom shall be from units offering the doctorate.
4. If the committee approves the proposed program, a plan of study shall be developed that includes the following elements:
 - a. Fields or areas of study
 - b. Required courses
 - c. Languages or other research tool requirements
 - d. Dissertation subject
5. The program as approved by the committee and accepted for principal sponsorship by a unit with an approved doctoral program shall be submitted to the dean of the Graduate School. Upon final approval the student's program shall have the same binding effect upon the Graduate School as programs printed in the graduate catalog. The degree earned shall carry the title of the doctoral unit that has assumed principal sponsorship. The commencement program shall give specific indication that the degree is interdisciplinary and include a listing of those units that are substantively involved in addition to the principal sponsoring unit, as determined by the graduate dean.
6. When the committee has certified all the required performances, including the results of examinations, the committee shall be dissolved.

Summary of Doctoral Degree Requirements

Achievement of a grade point average of at least 3.00.

Completion of any specific courses required by the doctoral program.

Fulfillment of the residency requirement.

- Completion of the research tool required by the doctoral program.
- Passing of the preliminary examination.
- Admission to candidacy.
- Completion of an approved dissertation with 24 hours of dissertation credit.
- Oral defense of dissertation.
- Submission of two approved copies of the dissertation to the Graduate School.
- Payment of \$55.00 microfilming fee.
- Completion of microfilm agreement and survey of earned doctorates at the Graduate School office.
- Degree conferred not less than six months nor more than five years after admission to candidacy.
- Submission of departmental clearance form.
- Register for 601 Continuing Enrollment.

General Regulations and Procedures

This section includes Graduate School procedures and regulations applicable to all graduate students regardless of degree classification. Requirements unique to the master's, specialist, and doctoral degrees, are stated in the section titled Degree Requirements. For information about specific degree programs the student should consult the appropriate degree program description. Requirements unique to the nondegree classifications are stated in the section in this chapter titled Unclassified Students—Non-Degree.

APPLICATION FOR GRADUATE STUDY

Students interested in admission to degree programs should contact appropriate departments directly to obtain official Graduate School application forms and other departmental materials. Students interested in unclassified (non-degree program affiliated) status, should contact the Graduate School directly to obtain application materials. In addition, students should carefully read directions obtained from departments on where to send official transcripts. Regardless of where the official transcripts are eventually sent, such transcripts must be forwarded directly from the registrar of previously attended schools (other than SIUC).

Transcripts

Students must have the registrar of each college previously attended (except SIUC) send an official transcript of the student record to either the Graduate School or the degree program director (check departmental procedures). Students applying for unclassified (non-degree status) must have the registrar of the degree-granting institution send one official transcript indicating the receipt of the bachelor's (or higher) degree to the Graduate School. Transcripts from institutions where the student received neither a degree nor enrolled for more than 12 semester hours of undergraduate credit are not required, provided that the grades obtained at such institutions are recorded upon the transcript of the college which granted the student's degree. Transcripts submitted directly by students are not acceptable. Transcripts and other admission credentials will not be returned nor forwarded to other institutions.

In accord with the Family Education Rights and Privacy Act of 1974, no non-Southern Illinois University at Carbondale person, firm, or agency may have access to an applicant's or a student's credentials without written consent of the individual concerned. Graduate students shall be permitted to examine their own records upon request. Such requests should be made by the student to the dean of the Graduate School.

Test Scores

The Graduate School does not require the Graduate Record Exam (GRE); however, various departments may require, at their discretion, the GMAT, GRE, MAT, or other appropriate standardized tests for admission. Refer to the departmental program description or contact the department for specific information.

Deadlines

In order to be fully admitted to a degree program at the beginning of the academic term, an applicant should see to it that all required admissions materials are submitted no later than 90 days prior to the beginning of the term for which the applicant is seeking admission.

Admission is for the term indicated and a student who does not enroll in courses for that term will be required to update the application by notifying the Graduate School before being allowed to enroll in courses.

If the term for which the applicant is applying is more than two years after the term of original admission, a student applying to a degree program must have the registrar of all institutions previously attended furnish official transcripts. An unclassified, nondegree student must have the registrar of the bachelor's degree-granting institution furnish one official transcript. If a student is applying to a degree program and has taken any course work at another institution between the first admission and the first registration, the applicant must have the registrar of the appropriate institutions furnish official transcripts of this work regardless of the amount of time elapsed.

Requirements

The admission requirements of the Graduate School and the department must both be met before the student is admitted to a degree program, and both the Graduate School and the department may specify conditions. Most departments require additional materials such as letters of recommendation and these should be forwarded directly to the applicant's major department. The student will be informed by the Graduate School of the resultant admission status after this process has been completed.

Admission of Faculty Members

No one who holds a faculty appointment at any of the academic ranks—lecturer, instructor, assistant professor, associate professor, and professor—shall be admitted to a graduate degree program at any level, or be eligible to register for courses to be taken for graduate credit, in the graduate degree program in which the faculty member holds the appointment. If a faculty member has been admitted to a graduate degree program in some unit other than the one in which such appointment exists, no member of the faculty of the unit in which the appointment is held may be a member of that colleague's thesis committee, graduate program committee, dissertation committee, or any other examining committee. (See also faculty appointments in the section titled Financial Assistance.)

Admission of International Students

This school is authorized under federal law to enroll non-immigrant alien students. A student from abroad is subject to all requirements for admission established by the Graduate School. In addition, the applicant must complete special forms pertaining to the admission of international students. For these admission forms and for other information concerning international students, inquiries should be sent to the Graduate School.

To allow ample time for visa and other departure procedures, the applicant should have an application and all supporting documents on file with the University no less than four months prior to the proposed entry date.

International students must be enrolled in a program leading to a graduate degree. They cannot be admitted as unclassified students.

If the above requirements are satisfactorily met and the student is admitted to a degree program, the applicant will be required to certify that personally adequate financial resources will be available to undertake and continue in a program of study.

Test of English as a Foreign Language (TOEFL). All applicants whose native or first language is not English must take the TOEFL test no more than 12 months prior to the term for which the applicant is seeking admission. A minimum TOEFL score of 550 is required for Graduate School admission; higher scores may be required for admission into specific degree programs.

Exemptions to the TOEFL requirement are: (1) an applicant who has completed a bachelor's degree (four years attendance and completion of at least 100 semester hours of course work) at an accredited institution in the United States; (2) an applicant who has completed a master's degree at an accredited institution in the United States, who obtained a TOEFL score of at least 550 prior to beginning graduate studies and who has been in residence in the United States continuously prior to application to SIUC. Verification of the earlier TOEFL score by the degree granting institution is mandatory.

Academic Requirements. If a foreign-born applicant has completed a four-year bachelor's degree program at an accredited institution in the United States of America, the applicant may be given the same consideration for admission to a graduate degree program as a United States citizen, in regard to both academic requirements and the use of English as a foreign language.

Applicants who have completed the equivalent of a four-year bachelor's degree at a recognized institution in any other country must have an academic record equivalent to a 2.70 grade point average ($A = 4.00$) for admission to a master's degree program.

The determination of the applicant's grade point average shall be the responsibility of the Graduate School.

Applicants for doctoral programs must meet the regular academic requirements for admission to a doctoral program.

Qualification for Assistantship with Teaching Duties. Every non-native English speaker assigned a graduate assistantship with teaching duties must pass an examination of oral English skill before undertaking classroom duties. A representative of the appointing department and of the Graduate School must participate in the examination.

REGISTRATION

Only those students who have been officially admitted by the Graduate School will be permitted to register.

Each student admitted to a degree program must consult a graduate adviser in the designated major department before going to the graduate desk of the Office of Admissions and Records for registration.

Unclassified nondegree students begin registration immediately at the graduate desk in the Office of Admissions and Records.

The schedule of classes for a particular semester or for the summer session is available from the Registration Center in the Office of Admissions and Records.

Students are strongly encouraged to complete their registration before the beginning of classes. After the beginning of the term, the student must have the approval of the Graduate School to register late and may be required to pay a late registration fee. Program changes after registration must be approved by the

student's adviser and the dean of the Graduate School and may involve payment of a program change fee. In addition, after the first week of classes, registration or program changes involving adding a course must have the approval of the instructor of each course.

Information concerning registration dates and deadlines for the first time the student attends the University will be sent when the student is admitted to the Graduate School. Continuing students should consult the Schedule of Classes for each semester to find deadlines and dates for registration.

Graduate Mail Registration

During the advance registration period for a term (see registration calendar for dates in the Schedule of Classes) graduate students admitted to a degree program, and admitted unclassified graduate students have the opportunity to register by mail. Graduate students admitted into a degree program should contact their graduate adviser to have the adviser sign their Course Request Form as a prerequisite to the process. Unclassified graduate students need not obtain an adviser's signature.

Late Registration

A late registration fee of \$15 shall be assessed to all students taking on-campus classes who register after the designated registration period. This fee shall be nonrefundable and nonwaiverable, except when it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in 599, 600, and 601 shall be exempt from such fee.

Withdrawal from Courses and from the University

WITHDRAWAL FROM COURSES

Students officially registered for courses must withdraw formally. They must process an official withdrawal form. Outlined below are the procedures to be followed by graduate students when withdrawing from courses.

DEADLINES FOR WITHDRAWING FROM THE UNIVERSITY OR FROM A COURSE

If Classes Meet for	Deadline for Withdrawal to Receive Refund	Deadline to Withdraw
13-16 weeks	3rd week	8th week
9-12 weeks	2nd week	6th week
7 or 8 weeks	2nd week	4th week
4-6 weeks	1st week	3rd week
2 or 3 weeks	1st week	1st week
less than 2 weeks	2nd day	2nd day

Students officially withdraw from courses through the program change process. This process starts with the academic adviser and is completed at the Registration Center. Graduate Students may withdraw from a course through the 8th week of the fall and spring semesters. Withdrawal deadlines for shorter sessions are correspondingly earlier (see schedule above). Official withdrawals during the first three weeks of the semester result in no entry being made on the student's record. Official withdrawals after the third week but prior to the 8th week of classes will result in the course listed on the student's record with the symbol W and the week of withdrawal. No withdrawals from a course will be authorized after the 8th week of classes. It is the student's responsibility to insure that the withdrawal process is officially completed.

WITHDRAWAL FROM THE UNIVERSITY

A complete withdrawal from the University may be authorized by the graduate dean at any time during the semester prior to the assignment of grades. Students who withdraw from all classes will have a statement of withdrawal from the

University and the week of withdrawal entered on their records. Students who find it necessary to withdraw from the University after school has started and who are on campus should contact the Graduate School in person to initiate the withdrawal process. If they are unable to come to campus, they may write the Graduate School asking that it process a withdrawal.

Students who advance register, including the paying of tuition and fees, and then find they cannot attend school must process an official withdrawal the same as do those who withdraw after school starts. In this case the process is the same as outlined in the paragraph above. Students who advance register but do not clear tuition and fees by the announced deadline date have their registrations cancelled by the University. Students who have deferred payment of tuition and fees must officially withdraw if they stop attending classes; the failure to pay deferred fees by the deadline date does not cancel one's registration nor remove the obligation to pay the deferred fees.

Refer to the section titled Payment and Refunding of Tuition and Fees in this chapter for information about the refunding of tuition and fees when withdrawing from the University. Refer to that section, also, relative to special considerations extended to students withdrawing from school for extended military service.

Student Course Loads

For federal financial aid purposes *only*, the following number of semester hours will be as full-and half-time:

	<u>16-week semester</u>	<u>8-week session</u>
Full-time	12	6
Half-time	6	3

Maximum course work for graduate students is 16 hours each semester; 12 hours is considered a normal load.

The maximum and minimum loads for graduate students under various types of financial support are summarized in the following table:

Type of Financial Support	<u>16-Week Semester</u>		<u>8-Week Session</u>	
	<u>Max.</u>	<u>Min.</u>	<u>Max.</u>	<u>Min.</u>
No financial support	16		8	
Graduate Assistantships				
1/2 time appointment	12	6	6	3
1/4 time appointment	14	6	7	3
More than 1/2 time appointment	8	3	4	2
Full-time University employees*	8		4	
Graduate Fellowships	16	12	8	6
Full Veteran's Benefits	16	10	8	5
SIUC Scholarships	16	8	8	4

* Civil Service staff must have approval from the Personnel office to register for courses.

A graduate student must enroll in 400- and 500-level credit work to meet the above minima. Audit work will not qualify to meet the minimum load. However, audit work is calculated in determining a student's maximum course load.

Exceptions to these maxima and minima are possible only with the written permission of the graduate dean.

Continuing Enrollment Requirement

Students who have not completed all degree requirements but who have previously enrolled for the minimum number of research, thesis, or dissertation credit hours required of the degree, must enroll every semester for at least one hour until all degree requirements have been completed. Summer sessions are exempted from the continuous enrollment requirement. Any graduate student who is not enrolled continuously as described above and who subsequently completes degree

requirements, must have the permission of the graduate dean to graduate. Such permission will be contingent upon payment of the tuition and fees that would have been paid if the student had enrolled continuously each semester.

Continuing Enrollment—601. This course is offered by each graduate degree program for students who have previously registered for the minimum number of research, thesis, or dissertation credit required of the degree. Registration in 601 (1 hour per semester) is required of all graduate students, whether in residence or not, who are not otherwise enrolled. Concurrent registration in any other course is not permitted.

Students registering for 601 are assessed only tuition and the Student Center Fee for the credit hours associated with the registration. Since none of the other student fees are assessed for 601, the student is not eligible for the benefits of any other programs such as Recreation Center use, Health Service and Student Medical Benefits, Students' Attorney Program assistance, etc. Students needing the above benefits that require fees may instead register for additional research, thesis, or dissertation hours.

School of Law Courses

A graduate student may enroll for graduate credit in law courses designated by the symbol *G* (e.g., Law 501G) if the student has permission of the dean of the School of Law and the dean of the Graduate School. Registration must be processed through the Graduate School and the grades will be reported on the Graduate School letter-grade system (*A, B, C*, etc.).

A graduate student may enroll in law courses for law credit only if the student has been duly admitted to the School of Law.

A law student may register for law credit in graduate courses with approval of the dean of the School of Law and the graduate dean. Registration must be processed on School of Law forms and the grades will be reported on the Graduate School letter-grade system.

A law student may not register for graduate courses for graduate credit unless the student has been admitted to the Graduate School.

Financial Assistance

Financial assistance is available to qualified students in all fields of study in the form of (1) graduate assistantships where one serves as a classroom teacher or assistant, as a research assistant, or as an administrative assistant, (2) fellowships or traineeships, (3) scholarships, (4) college work-study programs, and (5) loans. There are basic regulations that relate to these awards. Students should make application for the graduate assistantships, fellowships, or traineeships through the department to which they have been admitted. Information and application forms for the tuition scholarship program may be obtained from the Graduate School office. Information regarding the student work program and loans may be had by contacting the Financial Aid office.

Students should be sure that their applications for admission are complete including the submission of required transcripts to the Graduate School to assure consideration for an award. Unclassified graduate students (those not working for a degree) are eligible only for the student work program.

Graduate assistant appointments, graduate fellowships, and most traineeships include a tuition scholarship, but fees must be paid. A student may receive no more than two calendar years of graduate-student support while a master's level student. A student may receive no more than four calendar years of graduate-student support while a doctoral-level student. These time limits apply to assistantships, fellowships, traineeships, and other similar awards and appoint-

ments administered by the University, regardless of source of funds. Students who are awarded graduate assistantships, fellowships, or traineeships, but who have not furnished official proof of their most recent degree to the Graduate School shall be considered to be on term appointment for one semester only. No one will be appointed to a second term until an official transcript indicating receipt of the degree is received in the Graduate School.

Acceptance of an offer of financial aid (such as graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer from another institution without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer.

Graduate Assistants

Graduate assistantships (GA) are available in a variety of places across campus, from academic departments and research centers to administrative and service units. This type of appointment comprises the largest number of awards offered by the University. For these appointments, students apply directly to the chair of the department to which they have been admitted, who may in turn refer the students to a research center or administrative or service unit. A graduate assistant must be a registered student in a degree program. Unclassified students are not eligible for graduate assistantships.

The average GA appointment is 50% appointment (20 hours per week) and lasts for one academic year (9 months). There are also some 25% appointments requiring 10 hours per week. A student may hold two simultaneous quarter time (25%) appointments on campus without special approval. GA appointments may be either on a semester-pay basis or a fiscal-pay basis.

Appointments of at least 25% time for the full length of an academic term qualify for a tuition scholarship. The appointment papers, however, must have a starting date on or before the fifteenth day of classes for the tuition scholarship to apply. If a student is appointed for less than a full academic term on a fiscal pay basis, the appointment will not carry a tuition scholarship. A GA who holds an appointment for the full academic term but resigns before the end of the term still is granted the tuition scholarship for that term. A GA holding an appointment for the full length of two consecutive semesters will be eligible for a tuition scholarship the ~~semester~~ ^{summer} immediately following the two consecutive semesters.

Salary schedules for graduate assistantships vary from unit to unit. Currently, monthly stipends range from \$598 to \$812 (50% appointments). Generally doctoral students are paid higher rates than master's students. Information about the specific conditions of the appointment should be directed to the department or unit making the appointment.

College Work-Study Graduate Assistantships

The Graduate School and the Financial Aid office jointly administer the College Work-Study Assistantship program. This program supports approximately fifty graduate assistants each year. The program provides for up to 75% of each graduate assistantship from federal funds, with the remainder coming from departmental or collegiate funds. Students qualify for this program on the basis of financial need. Students must be citizens or permanent residents of the United States. Further information on application procedures and eligibility criteria is available from the Graduate School.

Graduate Fellowships

The Graduate School and some departments offer a number of graduate fellowships. The number varies depending upon the funds available for these awards each year. All awards of this type are highly competitive based upon scholarship and potential for success in graduate study. Application for these awards should be made by February 1 preceding the academic year for which the award is desired. Application forms and information about the award may be obtained by contacting the department to which one has been admitted or is seeking admission.

The stipend for a fellowship is \$650 per month, or \$6,875 for eleven months for master's degree students; for doctoral degree students the stipend is \$675 per month, or \$9,425 for eleven months. Graduate School fellowships include a tuition scholarship. While on fellowships, students shall not hold other appointments in the University, nor shall they hold jobs outside the University, since the purpose of the fellowship is to provide students with a source of income which will enable them to work full time at graduate studies rather than work part time at a job and part time at studies. There may be a training assignment if this has been outlined at the time of the appointment.

Traineeships

Individual departments often are able to provide traineeships. Information about these awards should be directed to the department to which one has been admitted or is seeking admission.

Dissertation Research Awards

Dissertation research awards are designed for superior students who are in the dissertation preparation stage of their graduate education. Selection is based upon a competition primarily considering the students academic research and quality of the dissertation prospectus. Students who will have started their dissertations by the end of the fall semester (advanced to candidacy, completed preliminary examinations, and completed most of their course work and research tools) may apply for the award during the preceding spring semester. A recipient of a dissertation research award must be officially admitted to candidacy by the end of the semester in which the award begins. The application should be submitted by February 1. The award is for a maximum of 11 months at a monthly rate of \$744 or \$8,514, plus tuition scholarship.

Students holding a dissertation research award are expected to devote full-time to the approved research project as determined by their department. The student should be enrolled for dissertation hours. The student holding such an award is expected to resign the award at the time the dissertation is submitted to the Graduate School if this comes prior to three weeks before the end of the time period for the award.

Graduate Dean's Fellowships

Several special graduate dean's fellowships are offered annually to students who, although not selected for a regular fellowship, in the judgment of the Graduate Dean show unusual promise for success in graduate studies. Students will be considered for these awards who have overcome social, cultural, or economic disadvantages in attaining their educational objectives. Application should be made through the chair of the department in which the student is enrolled.

Stipend rates and related regulations are the same as for the regular graduate fellowships. There is no service requirement other than those activities which are required by departments of all students regardless of the source of their support.

Delyte and Dorothy Morris Doctoral Fellowship Program

The Delyte and Dorothy Morris doctoral fellowships have been established by

Southern Illinois University at Carbondale to honor a distinguished former president and his wife. During Dr. Morris's tenure as president (1949-71) the University grew to be a comprehensive research institution and established doctoral programs in twenty-two fields, now twenty-five fields.

Eligible applicants must be at the beginning of their doctoral work. Therefore, applications prior to entrance into a doctoral program is required. Only applicants who have received no prior degree from SIUC and who have done no graduate work at SIUC are eligible. Applicants must possess the credentials of very promising scholars as indicated by high scholastic standing, excellent scores on standardized tests, outstanding recommendations, and evidence of high potential for research and publication.

Morris fellows will receive \$12,000 and a tuition scholarship for up to three years of full-time doctoral study at SIUC. Fellows are not eligible to hold another appointment either within or outside the University. Application deadline is February 1. Contact the Graduate School for application information.

State Fellowship Programs for Minority Students

The state of Illinois is currently supporting two fellowship programs for minority graduate students, the Illinois Minority Graduate Incentive Program (IMGIP) and the Illinois Consortium for Educational Opportunity Program (ICEOP). Both programs are designed to develop minority faculty and staff for Illinois institutions of postsecondary education; graduates of each program must agree to seek and accept appropriate employment in Illinois higher education. There are differences between the two programs in terms of eligible minority groups, residency requirements, eligible programs of study, etc. For further information and application materials, contact the IMGIP/ICEOP administrator in the Graduate School. While on IMGIP or full ICEOP awards, students may not hold other appointments either inside or outside the University, since the purpose of the fellowships is to provide students with a source of income which will enable them to study full time. All other rules and regulations governing University fellowships apply to these programs. Deadlines for applications are early in February for the following fall semester.

Patricia Roberts Harris Fellowship Program

This is an interrelated fellowship program that complements an overall Graduate School commitment to attract and retain increased numbers of highly qualified doctoral students from previously underrepresented groups. The present focus of the Patricia Roberts Harris program at SIUC is to recruit qualified minority students to doctoral programs in psychology, rehabilitation, and communication disorders and sciences and further provide a mechanism for their psychological, social, and educational support. Stipends for Patricia Roberts Harris fellows are \$10,000 plus a tuition scholarship and waiver of fees. While holding a Patricia Harris fellowship, students may not hold other appointments either inside or outside the University, since the purpose of the fellowship is to provide students with a source of income which will enable them to study full time. All other rules and regulations governing University fellowships apply to this program. Contact the Graduate School for information.

The National Consortium for Educational Access, Inc.

The National Consortium for Educational Access, Inc. (NCEA) offers a funding alternative for those who wish to pursue study towards the doctoral degree. Through NCEA a fellowship award is given, contingent upon and supplemental to the financial assistance provided by a participating doctoral degree granting institution. Black Americans choosing to study in an academic area of underrepresentation or faculty members who want to continue to teach at the college or university level are encouraged to apply. An NCEA fellowship supplement

averages between \$3,000 to \$7,000 per year, making combined assistance from NCEA and the doctoral degree granting institution between \$9,000 to \$15,000 per year. Annual fellowship renewals are dependent upon satisfactory performance and normal progress toward the doctoral degree.

NCEA structurally is a partnership agreement among 42 historically black colleges and universities, and over 25 doctoral granting institutions (including SIUC) supported by corporations, foundations, and the university system of Georgia, merged to provide a financial base for those who can help NCEA meet the following goals: (1) increase the pool of black Americans holding the Ph.D. degree in disciplines underrepresented by black Americans and (2) simultaneously increase the number of black Americans with a Ph.D. degree who want to teach in our nation's colleges and universities. Therefore, two distinct kinds of applicants are sought: faculty members working at a historically black college or university who want to continue to teach and the black American who wants to pursue the terminal degree with the intention of teaching in higher education. In addition to SIUC, the following doctoral granting institutions are participants in NCEA: Alabama A&M University, Atlanta University, Ball State University, Duke University, Emory University, Florida State University, Georgia Institute of Technology, Georgia State University, Howard University, Michigan State University, Rutgers, State University of New Jersey, Western Michigan University, University of Alabama at Birmingham, University of California, Santa Cruz, University of Cincinnati, University of Connecticut, University of Delaware, University of Georgia, University of Massachusetts at Amherst, University of North Carolina at Chapel Hill, University of Pennsylvania, University of Pittsburgh, University of Wisconsin at Madison, and Virginia Polytechnic Institute and State University, and Virginia State University. For further information contact the Graduate School at SIUC or the executive director of NCEA, 296 Interstate North Parkway, Suite 100, Atlanta, GA 30339 (404-421-3255).

Tuition Scholarships

A limited number of tuition scholarships are awarded to graduate students on the basis of scholarship. The award is for remission of tuition; fees must be paid.

To be eligible the student must be admitted to the Graduate School and to a department, and the student may not hold another University appointment which provides a tuition scholarship. Tuition scholarship recipients must enroll for a minimum of 8 hours each semester (4 hours in summer). There is no service requirement other than the duties required by a department of all students regardless of their source of support.

Application forms are available in the Graduate School office. Students should submit application forms at least one full semester preceding the semester for which the tuition scholarship is requested.

Financial Aid Office

Other forms of financial assistance available through the Financial Aid office include part-time employment on and off campus, cooperative work-study programs, summer employment, and student loan funds.

External Support for Graduate Study

Fellowships, grants-in-aid, scholarships, and other similar awards for the support of graduate students are available from many sources outside the University. Students are encouraged to apply for such awards. Information concerning appropriate external sources of support may be obtained from the Office of Research Development and Administration or from department chairs or directors of graduate studies of the student's major department.

Faculty Appointments

No student in a graduate degree program shall be appointed to any full-time faculty position in the department (or equivalent unit) while enrolled in the unit as a student, with the sole exception that a student who has already been admitted to candidacy for the doctoral degree may be granted a term appointment as an instructor in the unit while so enrolled. Such a term appointment shall not be renewable beyond a period of one year.

Satisfactory Progress Policy for Graduate Students

PURPOSE

The federal government, the states, and SIUC have invested large sums of money in providing financially needy students with the opportunity to attain a post-secondary education. Financial aid recipients are responsible for using the funds in an acceptable manner. Therefore, a graduate student who wishes to benefit from the receipt of financial aid must maintain satisfactory progress as defined in this policy.

AUTHORITY

The Higher Education Act of 1965, as amended, and the final regulations set forth by the Department of Education in 34 CFR 668 require that institutions of higher education establish reasonable standards of satisfactory progress. A graduate student who does not meet these standards is not eligible to receive federally funded financial aid. SIUC shall make these standards applicable to the following federal aid programs: National Direct Study Loan, College Work Study, Guaranteed Student Loan Program, and the Auxiliary Loans to Assist Students. Classified graduate students only are eligible to apply for all of the above named federal financial aid programs.

SATISFACTORY PROGRESS STANDARDS

SIUC requires that a classified graduate student be making satisfactory progress toward a degree if that student wishes to receive financial aid. A classified graduate student is making satisfactory progress toward a degree if successfully meeting two basic academic standards. First, a classified graduate student must complete a reasonable number of credit hours attempted each academic year in attendance. Second, a classified graduate student must maintain a scholastic standing, derived from grades, that allows for continued enrollment at the University under current academic guidelines. The following parameters will be used to define these two basic academic standards.

Maximum Time to Graduate. A student's eligibility is terminated after the academic year in which a cumulative total of 120 master's hours (140 hours for Master of Fine Arts degree) or 140 doctoral hours is attempted. A graduate student must complete at least 50% of the credit hours attempted during any year. The student's progress will be measured annually after spring semester to determine the progress made during the last academic year of attendance.

Grades. A student must be in compliance with the University's policy concerning academic standing, grades, and grade point average, as defined under the section titled Retention, and all other provisions in the current *Graduate Catalog*. A graduate student is academically suspended from the Graduate School is not making satisfactory progress.

As allowed by the Department of Education, unclassified graduate students will not be considered under the standard maximum time to graduate but only under the standard grades.

A classified graduate student who does not meet both the standards set forth

above and has been provided a probationary period, or who cannot show mitigating circumstances, is not maintaining satisfactory progress toward a degree and is no longer eligible to receive federal financial aid funds. (See Appeal for Mitigating Circumstances.)

Nothing in this policy shall be construed as a reduction of external requirements made by other federal, state, public, or private agencies when they award or control financial aid. Examples of the private agencies are the Veterans Administration, Vocational Rehabilitation, and the NCAA.

DEFINITIONS

Credit Hours Attempted. These shall be defined as those credit hours for which a student is registered and will receive a grade from SIUC.

Credit Hours Completed. These, for the purpose of the policy, shall be defined as the total number of academic credit hours for which a graduate student receives any grade from SIUC other than failing, withdrawal, unsatisfactory, or audit. Incomplete and deferred grades count as credit hours completed.

Eligible Students. These shall be defined as those graduate students who are admitted to the Graduate School.

Grade Point Average (GPA). Defined in the *Graduate Catalog* under the section titled Retention.

NOTIFICATION OF INELIGIBLE STATUS

It shall be the responsibility of the Graduate School to publish this policy and to notify by letter any graduate student who is no longer eligible to receive financial aid. Said notices shall be addressed to the student's most current home address on file with the University. IT SHALL BE THE RESPONSIBILITY OF THE STUDENT TO INFORM THE UNIVERSITY OF A CORRECT HOME ADDRESS AT ALL TIMES. The Financial Aid office will provide the Graduate School with a list of graduate students who are no longer eligible to receive federal financial aid.

REINSTATEMENT

Graduate students will have their eligibility to receive financial aid reinstated when they have reached the level of satisfactory progress required of them by this policy. They may achieve this status by having incorrect grades corrected or by completing the required number of attempted hours during the next academic year of enrollment without the benefit of financial aid.

SATISFACTORY PROGRESS PROBATIONARY PERIOD

A graduate student who has not met the satisfactory progress requirements specified above will be granted an extension for the following calendar year, and will be eligible for financial aid during this period. At the end of the probationary period, the student must have rectified the deficiency and be in compliance with all other established criteria in order to be considered eligible for federal financial aid. Only one such probationary period will be granted a student during graduate studies.

APPEAL FOR MITIGATING CIRCUMSTANCES

A graduate student shall have the opportunity to appeal in writing to explain mitigating circumstances. The appeal should be sent to the Graduate School within 15 days of receipt of the notice of ineligible status. The Graduate School will review the mitigating circumstances in the appeal and provide a written decision within 20 days after the receipt of the appeal.

The Graduate School will provide written notification to the Financial Aid office concerning all graduate students who have been granted an exception for mitigating circumstances.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. Students will be assessed the following tuition and fees each term:

Graduate Student Tuition and Fee Schedule

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 65.00	\$112.50	\$177.50	\$195.00	\$112.50	\$307.50
2	130.00	128.63	258.63	390.00	128.63	518.63
3	195.00	144.78	339.78	585.00	144.78	729.78
4	260.00	160.92	420.92	780.00	160.92	940.92
5	325.00	177.05	502.05	975.00	177.05	1152.05
6	390.00	193.20	583.20	1170.00	193.20	1363.20
7	455.00	209.35	664.35	1365.00	209.35	1574.35
8	520.00	225.48	745.48	1560.00	225.48	1785.48
9	585.00	241.62	826.62	1755.00	241.62	1996.62
10	650.00	257.78	907.78	1950.00	257.78	2207.78
11	715.00	273.90	988.90	2145.00	273.90	2418.90
12 or more	780.00	290.05	1070.05	2340.00	290.05	2630.05

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

Student fees include: Student Center fee, student activity fee, athletic fee, revenue bond fee, and student medical benefit fee. A microfilming fee of \$55 is required of all doctoral students at the time the dissertation is submitted for approval. If copyright is desired, an additional fee of \$25 is required. (Additional fee information is available in the schedule of classes.) Student fees include the following.

- Student Center Fee.* Provides funds for the operation of the Student Center.
- Student Activity Fee.* Provides funding for student organizations and activities on campus.
- Athletic Fee.* Provides partial funding for the university intercollegiate athletic program.
- Revenue Bond Fee.* Replaces funds which were previously obtained from tuition payments and used to under-write the funded debt operations of the Student Center and university housing.

Student Medical Benefit Fee. Provides funding for a comprehensive student health program including emergency service; hospitalization; specialty, primary, intermediate, or infirmary care; and prevention program. A student who pays

this \$45.00 fee is entitled to full medical benefits at the Health Service. One who has comparable coverage may seek a refund within the first three weeks of each semester by contacting the administrative director of the Health Service. Similarly, a refund is authorized for those students precluded from use of the student health program by unusual or extreme geographic considerations.

Additional Fee Information

1. Students should refer to the Schedule of Classes for specific fee information.
2. Permanent full-time or permanent part-time employees may be eligible for waiver of tuition and waiver of a portion of the student fees. (Graduate assistants are not eligible for a waiver of student fees.) Approval by the department head and the director of the Personnel office must be given prior to enrolling for courses. Employees who are approved pay only the Students Center fee and the Students' Attorney Program fee.
3. Students taking courses in extension or at approved residence centers are required to pay tuition as listed in the table above but do not pay student fees.
4. Graduate students who have registered for the minimum number of credit hours required for their degree are required to remain registered in continuing enrollment. Refer to the section titled Continuing Enrollment Requirement previously in this chapter for the regulations governing this fee.
5. In addition to the above fees, there is a graduation fee. For further information contact the Office of Admissions and Records. When submitting their dissertations, doctoral students are required to pay a \$36.00 fee to cover the cost of publication of the dissertation abstract and microfilming the dissertation. If copyright is desired, an additional fee of \$20.00 is required.
6. Students holding valid state scholarships are exempt from the above tuition and fees to the extent provided by the terms of the specific scholarship held. Honorary scholarships, which have no monetary value, may be awarded. An Illinois State Teacher Education Scholarship, an Illinois Military Scholarship, or an Illinois General Assembly Scholarship exempts the student from paying tuition, the student activity fee, and the graduation fee. The Illinois Scholarship for Dependents of Prisoners of War and the Illinois Bilingual Scholarship exempt the student from paying tuition and all mandatory nonrefundable fees.
7. Adult education course fees are computed on the basis of approximately sixty cents per contact hour.
8. Other charges which students may incur are those for departmental field trips, library fines, and excess breakage. Also, students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.
9. Students registering for courses on an audit basis pay the same tuition and fees as though they were registering for the courses for credit.
10. Out-of-state students will find the official University regulations governing determination of residency status for assessment of tuition later in this chapter.
11. Students enrolled in public service courses only pay tuition and a \$3.00 per semester hour fee divided equally between the Student Center and the Student Medical Benefit fund.

Payment and Refunding of Tuition and Fees

Tuition and fees are payable each semester during the academic year. Students who register in advance receive a Statement of Account in the mail and may pay either by mail or in person at the Bursar's office, by the deadline date, in accordance with instructions accompanying the statement. Otherwise their advance registration is cancelled and they must register again later. Students who register at the start of a semester must pay tuition and fees according to the schedule

which is in effect at that time. Students should read the *Schedule of Classes* for specific information on payment of tuition and fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they have processed the program change within the first three weeks of the semester, they will receive an automatic credit to their account.

A credit for tuition and fees will be made to student accounts for students who officially withdraw from school by the withdrawal deadlines listed later in this chapter. They will receive a refund check in approximately four weeks after the withdrawal has been received by the Office of Admissions and Records. No credit for tuition and fees is made for withdrawal occurring after the deadlines, except as described in the next paragraph.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). Students will be refunded full tuition and fees paid if they enter military service during the first five weeks of school. If students withdraw during the sixth through tenth weeks of school, they will be refunded half of the paid tuition and fees, and they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive no refund, but will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

DEFERMENT OF TUITION AND FEES

Students who are experiencing a delay in the receipt of verified financial assistance through the Financial Aid office may be eligible for a cancellation waiver. If granted, a cancellation waiver prevents a student's registration from being cancelled even though tuition and fees have not been paid by the publicized cancellation date.

Information concerning cancellation waiver procedures is available from the Financial Aid office and the office of the Graduate School. This information is also published in the *Daily Egyptian* each term. Guidelines may vary from term to term and year to year so students are advised to seek out accurate information rather than assume they qualify.

Determination of Residency Status

For the purpose of these regulations an *adult* is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. The term "the State" means the State of Illinois except in the following instances: (1) for the purposes of assessing graduate tuition, the president may take the term "the State" to include the Kentucky counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union. (2) For the purposes of assessing graduate tuition for not more than six hours the president may take the term "the State" to include the State of Missouri. Graduate students who take more than six hours per term will be charged out-of-state tuition for all semester hours taken during the term. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for Resident status as defined in these regulations the nonresident status shall be assigned.

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions at the time of application for admission. A student may be reclassified at any time by the

University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a Resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a Resident based on false or falsified documents, the reclassification to nonresident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student. An adult, to be considered a Resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the beginning of any term for which the individual registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Minor Student. The residence of a minor shall be considered to be, and to change with and follow:

- a. That of the parents, if they are living together, or the living parent, if one is dead; or
- b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of court decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding registration at the University; or
- c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or
- d. That of the legally appointed guardian of the person; or
- e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom the student has been supported for a period of at least three consecutive months immediately preceding registration at the University for any term, if the person's parents are dead or have abandoned him and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian. No parent or legal or natural guardian will be considered a resident of the State unless said person (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent from the State with no intention of changing the legal residence to some other State or country, within the State.

Emancipated Minor. If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a Resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to *actually reside in the State of Illinois* if a dwelling place has been maintained within the State uninterrupted for a period of at least three consecutive months immediately preceding term registration at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose

parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Married Student. A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be classified as a Resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate residency in compliance with the requirements applicable to students seeking Resident status.

Persons without United States Citizenship. A person who is not a citizen of the United States of America, to be considered a Resident, must have permanent resident status with the United States Immigration and Naturalization Service and must also meet and comply with all of the other applicable requirements of these regulations to establish Resident status.

Armed Forces Personnel. A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a Resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a Resident only if the individual was a resident of the State at the time of entry into military service.

A person who is separated from active military service will be considered a Resident of Illinois immediately upon separation providing the person: (a) was a resident of the State at the time of enlistment in the military service, (b) became treated as a Resident while in the military by attending school at Southern Illinois University while stationed within the State, or (c) has resided within the State for a period of three months after separation.

State and Federal Penitentiary. A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a Resident for tuition assessment purposes as long as said person remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States. The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered Residents. However, this shall apply only when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside the United States.

Dependents of University Employees. For the purposes of tuition assessment, all faculty, staff (including civil service employees), and graduate assistants, as well as their spouses and dependent children, shall be considered as resident students.

Definition of Terminology. To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts

pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide residence is a domicile of an individual which is the true, fixed, and permanent home and place of habitation. It is the place to which, whenever absent, the individual has the intention of returning. Criteria to determine this intention include but are not limited to year around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Procedure for Review of Residency Status or Tuition Assessment. A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If dissatisfied with the ruling in response to the written claim made within said period, the student may appeal the ruling to the president or his/her designee by filing with the appropriate official within twenty days of the notice of the ruling a written request.

UNIVERSITY EMPLOYEES

All full-time University employees who wish to use the employee tuition and fee waiver (civil service and faculty) who are classified as graduate students must seek approval of the Graduate School to enroll in more than six semester hours of courses.

Faculty and Staff

Members of the faculty who are seeking this waiver of tuition and some fees, must apply each term for the waiver by completing an Application for Waiver of Tuition/Fees for Faculty form. Waiver application forms may be obtained from the Personnel office or from the graduate registration area, Admissions and Records, Woody Hall, A14. The form should be filled out promptly each term and may be turned in at the graduate registration area or may be mailed to the Personnel office. The amount of the waiver will be automatically credited to the student's account after the faculty status is verified and the application form is processed.

Note that the waiver does not cover the Student Center fee, which must be paid by the student prior to the payment deadline in order to avoid cancellation of the registration.

Employees in faculty-administrative positions will receive a tuition credit and credit applied toward some fees whenever they are employed at any time during a semester for which they are registered. If the appointment is at least a nine-month appointment, students may receive the tuition-fee credit for an additional semester which must follow immediately the last semester of appointment. Students may option summer or fall in this instance.

Civil Service

Employees in permanent civil service positions will receive a tuition credit and credit applied toward some fees only when authorized by the Personnel office after compliance with personnel regulations. However, civil service employees expecting a waiver of tuition and fees must process a Civil Service Tuition and Fee Waiver form through the Personnel office before registering. If the Personnel

office approves the request, the student's account will then be credited with the amount of the waiver.

Note that the waiver does not cover the Student Center fee, which must be paid by the student prior to the payment deadline in order to avoid cancellation of the registration.

OTHER TYPES OF REGISTRATION IN GRADUATE COURSES

The following discussion concerns students who are either unclassified for various reasons or are undergraduates wanting to take graduate-level courses.

Unclassified Students—Non-Degree

A person may apply for admission to the Graduate School as an unclassified student when the applicant does not seek a graduate degree or has applied too late to be admitted to a degree program for the term for which admission is sought.

If an unclassified student is admitted to a degree program at a later time, the director of that program may petition the graduate dean that graduate courses completed while the student was unclassified be applied toward fulfillment of degree requirements. The student will be subject to the rules and regulations of the Graduate School and the department concerned including the completion of at least 9 hours after being admitted to a master's degree program from unclassified status.

Unclassified students are not eligible for fellowships, assistantships, or tuition scholarships.

REGULAR UNCLASSIFIED

A person who seeks admission as a regular unclassified graduate student must have been awarded a bachelor's or higher degree. A student admitted as a regular unclassified student may enroll in graduate courses as long as the student meets retention standards of the Graduate School.

LATE-ENTRY UNCLASSIFIED

An applicant to a degree program who meets Graduate School admission standards but whose materials are received too late for processing may be granted late-entry, unclassified status for the term for which admission was originally sought. The application papers will continue to be processed for admission to a degree program for the term following the one originally applied for. Whether or not work taken by a student who is unclassified because of late application will later count toward a degree will be decided by the Graduate School and the department concerned.

TEMPORARY UNCLASSIFIED (ON-CAMPUS)

An applicant who wishes to enroll for one term only or who has applied for admission too late to furnish official transcripts required by the Graduate School may be admitted as a temporary unclassified student. The applicant must sign a special registration form affirming possession of a bachelor's degree. No transcript is required.

A student may register as a temporary unclassified student for one semester only. If the student wishes to enroll in graduate courses after this time period, the student must apply for and be admitted, either to a degree program or to regular unclassified status.

TEMPORARY UNCLASSIFIED (OFF-CAMPUS)

For off-campus students (courses with sections in the 800s) more than one semester's registration will be allowed in the temporary unclassified status. These registrations should not accumulate to more than 12 hours total before a student is required to apply for admission to a program or for regular unclassified status.

Undergraduate Student Registration in Graduate Courses

GRADUATE CREDIT

An undergraduate student who wishes to register for a graduate course (400- or 500-level course) for graduate credit must file the standard application for admission to the Graduate School and submit to the graduate dean a request for graduate credit. Forms are available in the Graduate School. If the student is academically eligible for admission to a degree program, the student will be allowed to register as an undergraduate for graduate courses for graduate credit when within 12 semester hours of completing requirements for the bachelor's degree.

An undergraduate student who meets these qualifications will be allowed to take graduate courses for graduate credit for one semester or one summer term. If, at the end of the term, the student has not received the bachelor's degree, permission to enroll in graduate courses for graduate credit will be withdrawn until after the bachelor's degree has been conferred.

UNDERGRADUATE CREDIT

The Graduate School has the responsibility of approving the registration of undergraduate students in 500-level courses for undergraduate credit. Undergraduate students should only be encouraged to take 500-level courses if they are properly qualified. In dealing with these requests the following procedures must be followed.

The chair of the department offering the course, in collaboration with the instructor who is teaching the particular course, should forward a letter to the graduate dean indicating their approval for this student to enroll in the 500-level course for undergraduate credit. Since such a request should only be made for superior students, the letters should include such information as: (1) undergraduate GPA; (2) general description of the student's academic work; and (3) why this course would be beneficial. The student must stop by the Graduate School to obtain permission to enroll upon receipt of the letter by the graduate dean. If permission to enroll has been granted by the graduate dean, this will be indicated to the registration center. Accordingly, the student should bring the request form or add/drop slip to the Graduate School.

Additional Information

Residence-Center Credit

Credit earned at approved graduate residence centers and credit earned in off-campus courses for which graduate credit has been approved will be entered on a student's record as on-campus credit earned at SIUC.

Students enrolled for credit in approved residence-center master's degree programs or in specific residence-credit courses must have been officially admitted (either in a degree program or unclassified) to the Graduate School at SIUC.

For information about specific programs and courses, the student should consult the appropriate department.

Transfer Credit

All graduate credits earned by a student in good standing at an accredited university, which have not been applied toward fulfillment of requirements for another degree, are eligible for transfer to that student's degree program, subject to general limitations of Graduate School regulations, to residency requirements for doctoral degree programs, and to acceptance by the student's major department. All transfer credits are subject to final review by the graduate dean. No transfer credit will be given for work bearing a grade below *B* without express permission of the graduate dean in response to written petition from the student's

department. No credit toward a degree may be earned by correspondence nor in extension courses at another university. In the case of a master's degree, the student must earn at least half of the credit applied toward fulfillment of degree requirements in courses offered by SIUC.

The department recommending the graduate degree shall administer all required general and final examinations, and a member of the graduate faculty at SIUC shall direct the student's master's thesis, required research paper, or doctoral dissertation.

Graduate Grading System

A Excellent. 4 grade points.

B Good. 3 grade points.

C Conditional, not fully satisfactory. 2 grade points.

D Poor, not satisfactory. 1 grade point.

F Failure. 0 grade points.

S Satisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.

U Unsatisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.

W Authorized withdrawal made through a program change. Work may not be completed. Refer to grade explanation below.

INC Incomplete. Has permission of the instructor to be completed within a period of time designated by the instructor. Refer to grade explanation below.

DEF Deferred. Used only for certain designated and approved 500-level courses of an individual continuing nature such as research, thesis, or dissertation. Refer to grade explanation below.

AU Audit. No grade or credit earned. Refer to grade explanation below.

GRADING SYSTEM EXPLANATION

Only courses for which the grades of *A*, *B*, *C*, or *S* have been received are acceptable in fulfillment of graduate degree requirements. The letter grades *A*, *B*, *C*, *D*, and *F* are included in computing the grade-point averages for academic retention. If a graduate student repeats a course with the permission of the graduate dean, both grades will be counted in the grade-point average. Graduate students will not receive graduate credit for Pass/Fail grades. They may not receive a grade of Pass/Fail in a 400-level course graded Pass/Fail on an elective basis.

400-level courses. Most 400-level courses may be taken for graduate credit. The graduate catalog will indicate those 400-level courses which may not be taken for graduate credit. No grades of Pass/Fail may be given for a 400-level course for graduate credit. The instructor in a 400-level course which can be taken for graduate credit has the discretion to decide whether to require additional work for graduate credit.

Withdrawal. A *W* indicates authorized withdrawal from a course prior to the date indicated in the schedule of classes for the term in which the course was taken. The student's record will reflect the courses from which the student had withdrawn with the symbol *W* and the week of withdrawal. Program changes to drop a course during the first three weeks of classes result in no entry being made on the student's record (consult the section entitled Withdrawal from Courses and from the University for additional information on withdrawal procedures and deadlines).

Incomplete. An *INC* is assigned when, for reasons beyond their control, students

engaged in passing work are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor. *INC* is not included in grade-point computation.

To complete the work from the original registration, a student should not register for the course again, but should complete the work for the original registration if the original registration is within the normal time limits established for the degree.

Deferred. When the work is completed in a course for which *DEF* has been assigned, the grade is changed to a letter grade by the instructor, except in the case of theses and dissertations. When a thesis or dissertation has been submitted to the Graduate School as approved, the grade is automatically changed to *S*. If a thesis or dissertation is found unacceptable and the student is dismissed from the program, the grade of *U* is automatically assigned upon receipt by the Graduate School of the action dismissing the student.

Audit. A student registering for a course on an audit basis receives no letter grade and no credit hours. The student's registration must indicate audit registration and the same fees are paid as when registering for credit. During the first three weeks of a regular semester a student registered for a course for credit may change to audit status or vice versa through the official program change process. Thereafter, the change may not be made.

Changing of grades. At the completion of a course the final grade assigned to a student is the responsibility of the instructor of the course. Grades given at the end of the course are final and may not be changed by additional work or by submitting additional materials; however, clerical errors in recording grades can be corrected. To correct a clerical error, the assigned instructors should submit a grade change card together with an explanation and justification of the grade change for the approval or disapproval of the department chair, the appropriate college dean, and the dean of the Graduate School. In cases of theses and dissertations, for which *DEF* grades are given, the Graduate School changes the *DEF* grades upon presentation and acceptance of the thesis and dissertation and receipt of the departmental approval papers. In courses for which *INC* and *DEF* grades have been given, the assigned instructors has the responsibility of determining the final grade to be assigned and notifying the Office of Admissions and Records of the final grade by means of the grade change card.

Student Conduct Code

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I. Introduction	
A. Purpose	
Southern Illinois University at Carbondale is dedicated not only to learning, research, and the advancement of knowledge, but also to the development of ethically sensitive and responsible persons. The University seeks to achieve these goals through sound educational programs and policies governing individual conduct that encourage independence and maturity. By accepting membership in this University, an individual joins a community characterized by free expression, free inquiry, intellectual honesty, respect for others, and participation in constructive change. All rights and responsibilities exercised within this academic environment shall be compatible with these principles.	
B. Rights and Responsibilities	
Students shall be free to examine all questions of interest to them and to express opinions. They shall be guaranteed all constitutional rights including free inquiry, expression, and assembly. All regulations shall seek the best possible reconciliation of the principles of maximum academic freedom and necessary order.	
C. Title/Authority/Enforcement	
These regulations shall be known as the Student Conduct Code for Southern Illinois University at Carbondale. The regulations contained herein are established under the authority granted by law to the Board of Trustees to establish rules and regulations for Southern Illinois University and pursuant to Chapter 3 <i>Policies of the Board of Trustees</i> C authorizing the President to develop regulations dealing with student rights and conduct. All students of the University community have the responsibility to comply with these regulations. The responsibility for the enforcement of the Code rests with the President of Southern Illinois University at Carbondale or that officer's designees. The effective date for this Code is June 9, 1986.	
D. Jurisdiction	
The University community has a responsibility to provide its members those privileges, opportunities, and protections which encourage and	

maintain an environment conducive to educational development. Accordingly, this Code shall apply to (1) conduct occurring on property owned or controlled by the University, and (2) conduct occurring elsewhere, but only if the student's conduct has substantially interfered with the University's educational functions, including, but not limited to, interference with the educational pursuits of students, faculty, or staff or conduct having its origins in the educational process.

When a student has been apprehended for violation of a law the University will not request special consideration because of the individual's status as a student. The University will cooperate fully with law enforcement and other agencies administering a corrective or rehabilitative program for the student. The University reserves the right to initiate concurrent disciplinary action.

Academic dishonesty violations in the School of Law will be adjudicated through that unit's Professional Ethics Policy. Academic dishonesty violations in the School of Medicine will be adjudicated through that unit's Student Progress System. Law students and medical students on the Carbondale campus charged with other violations of the Code will be treated as any undergraduate and graduate student. In addition, law students charged with violations of social misconduct may also be charged under the School of Law's Professional Ethics Policy and medical students on the Carbondale campus charged with violations of social misconduct may also be charged under the School of Medicine's Student Progress System.

E. Definitions

1. "Academic officer" means any Instructor, Department Chairperson, Dean, Director, or Coordinator.
2. "Adjudication" means the resolution of disciplinary charges, including the appeal process.
3. "Admission" means admission, readmission, re-entry, registration, and re-registration as a student in any educational program at the University.
4. "Appeal" means a process for reviewing an earlier decision.
5. "Board" means the Board of Trustees of Southern Illinois University.
6. "Charge" means an accusation of a violation of the Student Conduct Code of Southern Illinois University at Carbondale.
7. "Code" means the Student Conduct Code for Southern Illinois University at Carbondale.
8. "Days" means all days when classes are in session.
9. "Formal" disciplinary procedures are disciplinary procedures used when the question of guilt is contested or when the student accepting responsibility for the disciplinary charges prefers to have a full hearing on the sanction.
10. "Informal" disciplinary procedures are disciplinary procedures used when the question of guilt is not contested and the student prefers to have an immediate decision on the sanction.
11. "Instructor" means any teaching assistant or member of the faculty.
12. "Members of the University Community" means the members of the Board of Trustees, employees, and registered students of Southern Illinois University at Carbondale.
13. "President" means that individual appointed by the Board as the chief executive, administrative, and academic officer of Southern Illinois University at Carbondale and any person authorized or directed by the President to act on that officer's behalf.

14. "Sanction" means a measure imposed on account of violation(s) of the Code.
15. "Student" means any person registered for, enrolled in, or auditing one or more classes.
16. "University" means Southern Illinois University at Carbondale.
17. "University official" means any individual authorized or directed by the President or that officer's designee to perform any delegated function.
18. "Violation" means a breach of conduct governed by the Code. The standard of proof used shall be a preponderance of the evidence.

II. Violations

A. Acts of Academic Dishonesty

1. Plagiarism: Representing the work of another as one's own work.
2. Preparing work for another that is to be used as that person's own work.
3. Cheating by any method or means.
4. Knowingly and willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research.
5. Knowingly furnishing false information to a University official relative to academic matters.
6. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this Code.

B. Acts of Social Misconduct

1. Violence
 - a. Rape
 - b. Physical Abuse
 - c. Direct threat of violence
 - *d. Harassment
 - e. Intimidation
 - f. Intentional obstruction or substantial interference with any person's right to attend or participate in any University function.
 - g. Participation in any activity to disrupt any function of the University by force or violence
 - h. Reckless behavior representing a danger to person(s)
2. Property Damage
 - a. Arson
 - b. Willful or malicious damage or destruction of property
 - c. Reckless behavior representing a danger to property
3. Weapons (unauthorized possession and/or use)
 - a. Firearms
 - b. Explosives and/or explosive devices
 - c. Any type of arms defined as weapons in Chapter 38 of the Illinois Revised Statutes
 - d. Pellet guns and B-B guns
 - e. Fireworks
4. Disobedience
 - a. Disobedience, interference, resistance, or failure to comply with direction of an identified University official acting in the line of duty.
 - b. Trespassing
 - c. Unauthorized entry
5. Deception
 - a. Furnishing false information to the University with intent to deceive

- b. Forgery, alteration, or misuse of University documents, records, and identification cards
- c. Forgery or issuing a bad check with intent to defraud
- 6. Theft
 - a. Misappropriation or conversion of University funds, supplies, equipment, labor, material, space, or facilities
 - b. Possession of stolen property
- 7. Safety
 - a. Intentionally entering false fire alarms
 - b. Bomb threats
 - c. Tampering with fire extinguishers, alarms, or safety equipment
 - d. Tampering with elevator controls and/or equipment
 - e. Failure to evacuate during a fire, fire drill, or false alarm
- 8. Cannabis or Controlled Substances (as defined in Chapter 56 1/2 of the Illinois Revised Statutes)
 - a. Manufacture
 - b. Sale or delivery
 - c. Unauthorized possession and/or use
- 9. Hazing (as defined in Chapter 144 of the Illinois Revised Statutes)
- 10. Abusive or disorderly conduct
- 11. Violations of University Housing regulations
- 12. Violations of other duly promulgated University policies or regulations, including but not limited to, alcohol, demonstrations, pets, smoking, solicitation, and guidelines for access to data and programs stored on the computer, will be adjudicated under this Code.
- 13. Acts Against the Administration of this Code
 - a. Initiation of a complaint or charge knowing that the charge was false or with reckless disregard of its truth
 - b. Interference with or attempt to interfere with the enforcement of this Code, including but not limited to, intimidation or bribery of hearing participants, acceptance of bribes, dishonesty, or disruption of proceedings and hearings held under this Code.
 - c. Knowing violation of the terms of any disciplinary sanction or attached conditions imposed in accordance with this Code.
- 14. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this Code.
 - *Charges of sexual harassment may be adjudicated under the University Sexual Harassment Policy.

III. Sanctions

The following are sanctions which may be imposed for a violation of this Code. Also, a condition may accompany a sanction. Conditions include, but are not limited to, restitution of damages, work projects, required counseling or therapy, required academic performance, etc. A condition may include loss of certain university privileges. If a condition accompanies a sanction, the condition must be related to the violation.

- A. Failure of an assignment, quiz, test, examination, or paper
 - A failing grade (F) may be assigned for the work in connection with which the violation occurred.
- B. Failure in a course
 - A failing grade (F) may be assigned for the course in which the violation occurred.
- C. Disciplinary Reprimand
 - In cases of minor violations and when the violation is acknowledged

by the student, a written reprimand may be issued by the Dean for Student Life or that officer's designee upon the recommendation of a University official. The purpose of the reprimand shall be to call to the student's attention the responsibility of meeting certain minimal community standards. Since a reprimand is given only when the violation is acknowledged the sanction may not be appealed.

D. Disciplinary Censure

Disciplinary censure is a written warning to the student that the cited behavior is not acceptable in the University community and that further misconduct may result in more severe disciplinary action. The student may appeal the finding of a violation but may not appeal the severity of the sanction.

E. Disciplinary Probation

Disciplinary probation removes a student from good disciplinary standing. The probation shall last for a stated period of time and until specific conditions, if imposed, have been met. Any misconduct during the probationary period will bring further disciplinary action and may result in suspension. Probationary status prevents the student from representing the University in some extracurricular activities and may result in the loss of some types of financial assistance.

F. Disciplinary Suspension

Disciplinary suspension is an involuntary separation of the student from the University for a stated period of time and until a stated condition, if imposed, is met after which readmission will be permitted. Disciplinary suspension is entered on the student's transcript for the duration of the suspension.

G. Indefinite Suspension

Indefinite suspension is an involuntary separation of the student from the University for an unprescribed period of time and until a stated condition, if imposed, is met. Any consideration for readmission requires a written petition to the appropriate administrative official before readmission will be considered. The indefinite suspension is entered on the student's transcript for the duration of the suspension.

H. Interim Separation

If the President or that officer's designee has reasonable cause to believe that a serious and direct threat to the safety and well-being of the members and/or property of the University community will be present if an individual is permitted to remain an active member of the community an interim separation may be imposed. A preliminary hearing or the opportunity for a preliminary hearing shall be afforded. If it is impossible or unreasonably difficult to conduct a preliminary hearing prior to the interim separation the individual shall be afforded the opportunity for such a preliminary hearing at the earliest practical time. The purpose of the preliminary hearing is to determine if there is justification to invoke an interim separation. During the preliminary hearing, the student will be provided a statement of the reasons for interim separation and will be afforded an opportunity to rebut. Interim separation is temporary and shall be enforced only until the completion of a full disciplinary hearing. A full disciplinary hearing shall be provided within a reasonable period of time.

IV. Policies and Procedures Applicable to Academic Dishonesty

A. Judicial Structure

1. Department Level

The department chairperson shall have initial jurisdiction over

complaints of academic dishonesty and may adjudicate the case if the student accepts responsibility for the violation(s).

2. College/School Level

- a. Each Dean has the responsibility for the formal resolution of charges against a student. For the purpose of administering this code, the Graduate School Dean shall operate at the level of other deans.
- b. Charges of falsifying information on applications for admission shall be adjudicated by the Director of Admissions and Records. The Director of Admissions and Records, for the purpose of administering this Code, shall operate at the level of other deans.
- c. When social misconduct is also involved in an incident(s) of academic dishonesty, the Dean shall charge the student with all violations. All charges shall be adjudicated under the provisions for academic dishonesty.

3. Presidential Level

This level has jurisdiction to hear appeals.

B. Informal Disciplinary Procedures

1. Informal Hearing

In cases where the student admits to a violation of the Code relating to academic dishonesty the matter may be adjudicated at the department level. An informal discussion between the instructor and the student shall be held. If the student admits in writing to a violation of the code, the instructor shall recommend in writing a sanction to the department chairperson. The chairperson shall meet with the instructor and the student, receive the acknowledgement of responsibility from the student, receive the recommendation from the instructor, and apprise the student of the sanction.

2. Sanctions

The full disciplinary history of the student shall be considered in determining the sanction. Sanctions which may be imposed when the student accepts responsibility for the conduct are:

- a. The student may be removed from the class immediately.
- b. The student may be assigned a failing grade for the work and/or course.
- c. The student may be placed on disciplinary probation.
- d. Any combination of the above.
- e. The department chairperson may recommend to the dean that the student be suspended from the University.

3. Notification

The department chairperson shall send written verification of the sanction(s) to the student. Such notification will normally be sent within five days of the meeting with the instructor and the student.

4. Appeal

The student may appeal the severity of the sanction or failure to follow prescribed procedure, pursuant to IV C 8. A student may not appeal the question of guilt.

C. Formal Disciplinary Procedures

1. Initiation of a Complaint

- a. Any member of the University community may initiate disciplinary proceedings by filing a complaint within twenty days of discovery of an alleged violation of the Student Conduct Code. The complaint must be made in writing with all available evidence attached. The complaint shall be filed with the depart-

ment chairperson in the unit in which the alleged violation occurred.

- b. The department chairperson shall make a preliminary review of the complaint. If there are no grounds for disciplinary charges the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge a written request must be submitted to the appropriate academic dean within ten days of the receipt of the notification. The dean shall review the request, the complaint, and the department chairperson's decision and decide whether to pursue formal charges.
2. Formal Charges

In cases of alleged academic dishonesty where guilt is disputed by the student, as well as whenever there has been a recommendation from the department chairperson for suspension, the case will be adjudicated at the dean's level with a formal hearing. The dean shall notify the student in writing regarding the charge(s) as well as the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the current local address of the student as provided to the Office of Admissions and Records by the student. Thus, failure to notify the University of changes of address could result in a hearing being held *in absentia*.
3. Formal adjudication
 - a. The student has the right to:
 - (1) Be apprised of all evidence.
 - (2) Hear and question available witnesses. Sworn statements will be accepted from those persons unable to attend the hearing.
 - (3) Not be compelled to offer evidence which may be self-incriminating.
 - (4) Receive a written decision specifying judicial actions.
 - (5) Appeal the decision, pursuant to IV C 8.
 - b. The student has the option to have:
 - (1) Advisory assistance. The responsibility for selecting an advisor is placed on the charged student. The advisor may be any individual except a principal in the hearing. The advisor shall be limited to advising the student and shall not participate directly in the hearing.
 - (2) An open or closed hearing.
 - (3) Have witnesses testify in his/her behalf. Sworn statements shall be accepted from those persons unable to attend the hearing. Character witnesses may be excluded by the hearing agent.
 - c. Hearing agent

The charged student may submit a preference for a hearing before a judicial board or the dean or his/her designee. The dean shall decide the hearing agent.
4. Judicial Hearing Agents
 - a. Judicial Board Directives
 - (1) Size

A judicial board shall be comprised of seven members. A quorum required to conduct a hearing shall be five members. A decision shall be reached by majority vote.
 - (2) Membership
 - (a) Student members shall meet the following standards:

- (i) Fulltime as defined by the Director of Admissions and Records.
- (ii) Good disciplinary standing since matriculation.
- (iii) Minimum grade point average of 2.5 (undergraduate); 3.0 (graduate); or professional student in good standing.

NOTE: Fulltime University employees who are enrolled in classes may not serve as student members. Graduate assistants and student workers in the department in which the incident occurred shall be excluded from judicial boards.

- (b) Faculty members may include any person under faculty appointment, excluding administrators.
 - (c) All appointments shall be reviewed by the Office of the Dean for Student Life to ensure that candidates meet the minimal requirements. A list of judicial board members will be available upon request within the office of the academic dean.
- (3) Judicial Board Operating Papers
- Each judicial board may develop its own operating paper. Each operating paper shall be reviewed by the office of the Dean for Student Life to ensure consistency with the provisions of this Code.
- (4) Administrative Advisors
- Each judicial board shall have an administrative advisor from the Office of Student Life. The advisor's role shall be limited to providing guidance and clarification. The advisor shall sit with the panel in both open and executive sessions.
- (5) Terms
- Each judicial board shall be in session for twelve weeks during the fall and spring terms and for four weeks during the summer term. A board is not expected to meet during the first two nor the last two weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer when a board is not in session or is defunct.
- (6) Powers
- A judicial board shall make a decision of guilt or innocence and shall make a recommendation on the sanction to the Dean.
- b. Administrative Hearing Officer
- The administrative hearing officer shall be the academic dean or that officer's designee.
5. Judicial Hearings
- a. Time limitations
 - (1) A student electing formal adjudication shall have a minimum of five days written notice prior to a hearing.
 - (2) A student shall have five days after receiving notification of the decision in which to submit an appeal.
 - b. Failure to appear
- Initial jurisdiction hearings shall be held *in absentia* when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.
- c. Tape recordings
- All formal judicial hearings shall be tape recorded. After the appeal period has expired the tape may be erased.

d. Challenge for cause

A student may challenge panel members for cause. The decision to remove a panel member will be made by the other panel members.

e. Peremptory challenge

A student may challenge one panel member without assigning any cause. A peremptory challenge will be automatically honored by the chair of the panel.

f. Confidentiality

All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in removal of judicial board members by the dean.

6. Sanctions

A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in violation of the Code, the full disciplinary history shall be considered in determining the sanction. The academic dean shall request the student's disciplinary record from the Student Life Office. The academic dean and the Dean for Student Life shall develop lines of communication to keep each other apprised of a student's disciplinary history for this purpose. Sanctions which may be imposed are:

- (1) The student may be assigned a failing grade for the work and/or course.
- (2) The student may be placed on disciplinary probation.
- (3) The student may be suspended from the University.
- (4) Any combination of the above.

7. Notification

The dean shall send written notification of the decision of the hearing and sanction(s) to the student. Such notifications will normally be sent within five days of receipt of the judicial board's recommendation or within five days of the administrative hearing.

8. Appeals

Any disciplinary determination or sanction involving academic dishonesty may be appealed from the dean's level by submitting an application for appeal to the Vice President for Academic Affairs and Research within five days after receiving notification of the prior decision. However, the right of appeal does not guarantee that an appeal will be granted nor does it entitle the student to a full rehearing of the case. An appeal hearing, if granted, will be limited to the issues set forth in subparagraph c. below.

- a. The student may submit a preference for an appeal hearing before a judicial board or an administrative hearing officer. The Vice President for Academic Affairs and Research shall decide the hearing agent.
- b. The burden of proof at the initial jurisdiction level is on the University. At the appeal level, however, the student bears the burden of demonstrating error as defined in the following item (c).
- c. Three issues constitute possible grounds for an appeal:
 - (1) Were judicial procedures correctly followed?
 - (2) Did the evidence justify a decision against the student?
 - (3) Was the sanction(s) imposed in keeping with the gravity of the violation? Previous violation(s) of the Code and the

accompanying sanction(s) will be considered in determining a proper sanction for a current violation.

- d. The appropriate committee of the judicial board or the administrative hearing officer will review the appeal to ascertain whether there are sufficient grounds for a hearing.
 - e. If an appeal hearing is granted the agent hearing the appeal will not rehear the case. The agent will limit its review to the specific points of the appeal that were accepted at the screening review.
 - f. The agent hearing the appeal may:
 - (1) Affirm the decision(s) of the initial jurisdiction.
 - (2) Affirm the decision(s) and reduce the sanction.
 - (3) Modify the decision(s) of violation and reduce the sanction.
 - (4) Reverse the decision(s) of violation, remove the sanction, and dismiss the case.
 - g. A student dissatisfied with the decision on appeal may seek review by the President by submitting such a request in writing within five days after receiving notification of the prior decision. Review by the President shall also be limited to the issues specified in subparagraph c. above.
 - h. Further appeal may be made to the Board of Trustees by filing an application for appeal in accordance with Article VI Section 2 of the Board of Trustees Bylaws. The Board of Trustees will review only those administrative decisions which meet the requirements for review established by the Board's Bylaws.
9. Implementation of Sanction(s)
- a. The disciplinary sanction(s) shall be implemented when:
 - (1) The student has waived the right of appeal, or
 - (2) The appeal period has expired.
 - b. The sanction shall be as specified by the final adjudicating agent.
 - c. A student separated from the University for disciplinary reasons is subject to the normal guidelines for tuition and fee refunds, grades, and financial penalties for terminating a housing contract.
 - d. Following the implementation of the sanction, all records relating to the case will be filed with the Dean for Student Life.

10. Exceptions

The above procedures shall be followed unless an exception is authorized in writing by the Vice President for Academic Affairs and Research. All requests for temporary exceptions shall be submitted in writing to the Vice President. Any exception allowed shall be limited to individual cases and shall not infringe upon a student's right to written notice, opportunity for a hearing, and an appeal.

V. Policies and Procedures Applicable to Social Misconduct

A. Judicial Structure

1. Unit Level

A case may be resolved informally by a University official in a department/office as authorized by the Dean for Student Life, pursuant to V\$FSB 1. All cases in which guilt is disputed shall be referred to the Student Life Office.

2. Campus Level

The Campus Judicial Board for Discipline and/or the Coordinator of Student Discipline has initial jurisdiction over social miscon-

duct not handled by other offices. The campus level also shall hear appeals from the unit level.

3. Presidential Level

This level has jurisdiction to hear appeals.

B. Informal Disciplinary Procedures

1. Informal Hearing

In cases where the student accepts responsibility for the social misconduct the matter may be adjudicated at the departmental/office level. An informal discussion between the University official and the student shall be held. If the student accepts responsibility for the charge(s) the University official shall recommend a sanction to the Coordinator of Student Discipline.

2. Sanctions

The full disciplinary history of the student shall be considered in determining the sanction. The University official may recommend to the Coordinator of Student Discipline any of the following sanctions:

- a. Disciplinary reprimand
- b. Disciplinary censure
- c. Disciplinary probation
- d. Disciplinary suspension
- e. Indefinite suspension
- f. Interim suspension

3. Notification

The Coordinator of Student Discipline shall send written verification of the sanction to the student within five days of the receipt of the recommendation.

4. Appeals

A student may appeal the severity of the sanction pursuant to V C 9 or failure to follow prescribed procedure. A student may not appeal the question of guilt.

C. Formal Disciplinary Procedures

1. Initiation of a Complaint

- a. Any member of the University community may initiate disciplinary proceedings by filing a complaint with the Coordinator of Student Discipline within twenty days of the discovery of an alleged violation of the Student Conduct Code. The complaint must be in writing with all available evidence attached.
- b. The Coordinator of Student Discipline shall make a preliminary review of the complaint. If there are no grounds for disciplinary charges or if the complaint should be processed under another policy the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge a written request must be submitted to the Dean for Student Life within ten days of the receipt of the notification. The dean shall review the request, the complaint, and the Coordinator of Student Discipline's decision and decide whether to pursue formal charges.

2. Formal Charges

In cases of alleged social misconduct when guilt is disputed by the student, the case will be adjudicated at the appropriate level with a formal hearing. The Coordinator of Student Discipline shall notify the student in writing regarding the charge(s) as well as the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the current local address of the student provided to the Office of Admissions

and Records by the student. Thus, failure to notify the University of changes of address could result in a hearing being held *in absentia*.

3. Fact-Finding Conference

The Coordinator of Student Discipline shall conduct a fact-finding conference which shall include the charged student and may include the complainant and/or witnesses. Matters to be examined at the fact-finding conference are:

- a. The charge(s) filed against the student.
- b. The evidence against the student.
- c. The witnesses, if any, that shall testify.
- d. The provisions of the Student Conduct Code.
- e. Whether to continue disciplinary procedures.
- f. The student may elect to acknowledge the violation(s) at the fact-finding conference and have a decision made on the sanction by the Coordinator of Student Discipline at the fact-finding conference. If this option is chosen the student may appeal only the severity of the sanction.
- g. The student may elect to have a formal hearing scheduled in the future.
- h. If the student fails to make an appointment for or fails to keep a scheduled appointment for a fact-finding conference the case may automatically be referred to the appropriate hearing agent for a hearing.

4. Formal Adjudication

- a. The student has the right to:
 - (1) Be apprised of all evidence.
 - (2) Hear and question available witnesses. Sworn statements will be accepted from those persons unable to attend the hearing.
 - (3) Not be compelled to offer evidence which may be self-incriminating.
 - (4) Receive a written decision specifying judicial actions.
 - (5) Appeal the decision, pursuant to V C 9.
- b. The student has the option to have:
 - (1) Advisory assistance. The responsibility for selecting an advisor is placed on the charged student. The advisor may be any individual except a principal in the hearing. The advisor shall be limited to advising the student and shall not participate directly in the hearing.
 - (2) An open or closed hearing.
 - (3) Witnesses testify in his/her behalf. Sworn statements shall be accepted from those persons unable to attend the hearing. Character witnesses shall be excluded.

c. Hearing agent

The charged student may submit a preference for a hearing before a judicial board or an administrative hearing officer. The appropriate University official may decide the hearing agent.

5. Judicial Hearing Agents

a. Judicial Board Directives

(1) Size

A judicial board shall be comprised of seven members. A quorum required to conduct a hearing shall be five members. A decision shall be reached by majority vote.

(2) Membership

(a) Student members shall meet the following standards:

- (i) Fulltime as defined by the Director of Admissions and Records.
- (ii) Good disciplinary standing since matriculation.
- (iii) Minimum grade point average of 2.5 (undergraduate); 3.0 (graduate); or professional student in good standing.

NOTE: Fulltime University employees who are enrolled in classes may not serve as student members.

- (b) Faculty members may include any person under faculty appointment, excluding administrators.
 - (c) All appointments shall be reviewed by the office of the Dean for Student Life to ensure that candidates meet the minimal requirements. A list of judicial board members will be available upon request within the office of the Dean for Student Life.
- (3) Judicial Board Operating Papers
- Each Board may develop its own operating paper. Each operating paper shall be reviewed by the Office of the Dean for Student Life to ensure consistency with the provisions of this Code.
- (4) Administrative Advisors
- Each judicial board shall have an administrative advisor from the Office of Student Life. The advisor's role shall be limited to providing guidance and clarification. The advisor shall sit with the panel in both open and executive sessions.
- (5) Terms
- Each judicial board shall be in session for twelve weeks during the fall and spring terms and for four weeks during the summer term. A board is not expected to meet during the first two nor the last two weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer when a board is not in session or is defunct.
- (6) Powers
- A judicial board shall make a decision of guilt or innocence and shall make a recommendation on the sanction to the appropriate administrator.
- b. Administrative Hearing Officer
- An administrative hearing officer appointed by the Dean for Student Life shall be available at all levels to adjudicate disciplinary cases.
6. Judicial Hearings
- a. Time Limitations
 - (1) A student electing formal adjudication shall have a minimum of five days written notice prior to a hearing.
 - (2) A student shall have five days after receiving notification of the decision in which to submit an appeal.
 - b. Failure to appear
- Initial jurisdiction hearing shall be held *in absentia* when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.
- c. Tape recordings
- All formal judicial hearings shall be tape recorded. After the appeal period has expired the tape may be erased.
- d. Challenge for cause
- A student may challenge panel members for cause. The deci-

sion to remove a panel member will be made by the other panel members.

e. Peremptory challenge

A student may challenge one panel member without assigning any cause. A peremptory challenge will be automatically honored by the chair of the panel.

f. Confidentiality

All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in administrative removal of judicial board members by the Dean for Student Life.

7. Sanctions

A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in violation of the Code, the full disciplinary history shall be considered in determining the sanction. The Dean for Student Life shall request the student's disciplinary records from the academic dean. The academic dean and the Dean for Student Life shall develop lines of communication to keep each other apprised of the student's disciplinary history for this purpose.

Sanctions which may be imposed are:

- a. Disciplinary reprimand
- b. Disciplinary censure
- c. Disciplinary probation
- d. Disciplinary suspension
- e. Indefinite suspension
- f. Interim separation

8. Notification

The Coordinator of Student Discipline shall send written notification of the decision of the hearing and sanction(s) to the student. Such notification will normally be sent within five days of receipt of the judicial board's recommendation or within five days of the administrative hearing.

9. Appeals

Any disciplinary determination or sanction involving social misconduct may be appealed to the next level in the judicial structure by submitting an application for appeal in writing to the Dean for Student Life or the Vice President for Student Affairs, as appropriate, within five days after receiving notification of the prior decision. However, the right of appeal does not guarantee that an appeal will be granted nor does it entitle the student to a full rehearing of the case. An appeal, if granted, will be limited to the issues set forth in subparagraph c. below.

- a. The student may submit a preference for an appeal hearing before a judicial board or an administrative hearing officer. The appropriate university official shall decide the hearing agent.
- b. The burden of proof at the initial jurisdiction level is on the University. At the appeal level, however, the student bears the burden of demonstrating error as defined in the following item (c).
- c. Three issues constitute possible grounds for an appeal:
 - (1) Were judicial procedures correctly followed?
 - (2) Did the evidence justify a decision against the student?
 - (3) Was the sanction(s) imposed in keeping with the gravity of the violation? Previous violation(s) of the Code and the

- accompanying sanction(s) will be considered in determining a proper sanction for a current violation.
- d. The appropriate committee of the judicial board or the administrative hearing officer will review the appeal to ascertain whether there are sufficient grounds for a hearing.
 - e. If an appeal hearing is granted the agent hearing the appeal will not rehear the case. The agent will limit its review to the specific points of the appeal that were accepted at the screening review.
 - f. The agent hearing the appeal may:
 - (1) Affirm the decision(s) of the initial jurisdiction.
 - (2) Affirm the decision(s) and reduce the sanction.
 - (3) Modify the decision(s) of the violation and reduce the sanction.
 - (4) Reverse the decision(s) of violation, and remove the sanction, and dismiss the case.
 - g. A student dissatisfied with the decision of the Vice President for Student Affairs may seek review by the President by submitting such a request in writing within five days after receiving notification of the prior decision. Review by the President shall also be limited to the issues specified in subparagraph c. above.
 - h. Further appeal may be made to the Board of Trustees by filing an application for appeal in accordance with article VI section 2 of the Board Bylaws. The Board of Trustees will review only those administrative decisions which meet the requirements for review established by the Board's Bylaws.
10. Implementation of Sanction(s)
- a. The disciplinary sanction(s) shall be implemented when:
 - (1) The student has waived the right of appeal, or
 - (2) The appeal period has expired.
 - b. The sanction shall be as specified by the final adjudicating agent.
 - c. A student separated from the University for disciplinary reasons is subject to the normal guidelines for tuition and fee refunds, grades, and financial penalties for terminating a housing contract.
 - d. Any type of disciplinary separation from the University may be accompanied by a condition which bars the student from University property.
11. Exceptions
- The above procedures shall be followed unless an exception is authorized in writing by the Dean for Student Life. All requests for temporary exceptions shall be submitted in writing to the Dean for Student Life. Any exception allowed shall be limited to individual cases and shall not infringe upon a student's right to written notice, opportunity for a hearing, and an appeal.

VI. Amending Procedures

A. Review and/or Revisions

At the request of any recognized constituency, the Vice President for Academic Affairs and Research, or the Vice President for Student Affairs, the President or that officer's designee shall appoint a committee to consider amendments to this Code. The committee shall consist of two undergraduate students, one graduate student, two faculty members, one academic dean, one representative from the University Hous-

ing Office, one representative from the Student Life Office, and an ex officio representative from the Legal Counsel Office. The student and faculty members shall be designated by their appropriate constituencies. The Vice President for Student Affairs shall appoint a chairperson for the committee who may be one of the members listed above.

B. Amendments

The President may propose to the Chancellor amendments to the Code. Whenever the circumstances allow, due consideration shall be given to the recommendations of the committee provided for in the preceding paragraph. Amendment will be accomplished by the regular procedures for amendment of University policy.

C. Notification

Any amendment of the Code shall become effective only after general notice of such change has been given to the student body, faculty, and administrative staff. General notice shall include, but not be limited to, public notification of approved amendments twice successively published in the *Daily Egyptian* in their entirety within seven days after approval of said amendments by the Chancellor.

Academic Grievances Policy/Procedures

Graduate students at SIUC shall have the right to appeal for redress of grievance through established channels. Access to these channels is restricted to graduate students who were officially enrolled at the time when the incident that has resulted in the filing of a grievance occurred.

Each academic unit and administrative unit, as described in the Graduate Catalog, should establish a grievance procedure. In general, it is preferable that problems be solved within the University at the level at which they arise. The Graduate School should not be asked to rule on any grievance until prior channels are exhausted.

In general, any question of the character and professional competence of any individual faculty member at SIUC will be considered to be outside the competence of the academic grievance committee* to judge.

Procedure Governing the Academic Grievance Process

Any graduate student may ask for and receive a hearing before an academic grievance committee.** This hearing is available to the student only after appeals procedures which are open to the student at the academic and administrative level at which the conflict arose have been exhausted. An academic grievance committee will be advisory to the dean of the Graduate School and will submit its findings to the dean.

Composition of the Academic Grievance Committee

An academic grievance committee shall consist of five members, and the members of the committee shall be appointed from those colleges/schools having graduate programs. Of those five members, three shall be appointed from the graduate faculty and two shall be appointed from the graduate student body. The dean will seek nominations from the Graduate and Professional Student Council for the graduate student members of a committee and from the Graduate Council for the graduate faculty members of a committee. The dean will designate which colleges/schools will have graduate student members appointed. The committee will be demographically representative of the University insofar as possible. The academic unit from which the grievance arose will not have a member appointed

*Academic grievance committee—An Ad Hoc committee of graduate faculty and graduate students selected by the dean of the Graduate School to review graduate student grievances and advise the graduate dean of appropriate action(s) regarding such complaints.

**Grievances involving sexual harassment will automatically be referred to the Sexual Harassment Policy Board.

to the grievance committee. An academic grievance committee shall meet and elect its own chair from among its graduate faculty membership.

Filing a Grievance

A graduate student desiring a hearing before an academic grievance committee will submit a written request to the dean of the Graduate School within thirty calendar days after the aggrieved had received the final decision of the person(s) who heard the complaint at the administrative or academic level at which the complaint had arisen. The request must state the following:

1. Name of the aggrieved.
2. Program in which aggrieved is enrolled.
3. Name of the aggrieved's major adviser.
4. Name and title of the person(s) against whom the complaint is lodged.
5. A means of reaching the aggrieved.
6. A statement of the grievance including descriptions of the incident(s) involved and date(s) of occurrence.
7. Summary of grievance proceedings held at the previous administrative or academic level and the decision(s) rendered by the body/administrator before whom that proceeding was held.
8. A statement of why the previous decision was in error.

Graduate Student Grievance Procedures

Upon receiving a written request for a hearing regarding academic grievance, the dean of the Graduate School, in consultation with the Graduate and Professional Student Council and the Graduate Council, shall select an academic grievance committee.

The committee shall review the written request to determine whether the record is complete and a decision may be rendered by the committee without additional hearing or whether a hearing should be held. This determination should be sent to the grievant within ten days of receipt of the written request by the committee.

A. If the committee decides that no hearing is required, it shall review the materials submitted by the grievant and render a recommendation of the grievance within twenty working days after notifying the grievant that no hearing will be held. The recommendation of the committee shall be sent to the dean of the Graduate School immediately upon its completion.

B. If the committee determines that a hearing shall be held on the grievance, a hearing should begin within thirty working days after that determination is made. In those cases, the grievant and the parties against whom the grievance is brought shall have equal opportunity to present relevant information relating to the grievance. The hearing shall be conducted by the committee and the following rules and procedures shall be followed:

1. The principal parties to the grievance shall have the right to be accompanied by personal legal counsel or an adviser of their choice. Personal legal counsel/advisers will be permitted to advise their clients in the hearing but may not speak on behalf of their client without prior written approval of the committee.
2. The grievant and the responding parties shall provide to the committee a list of witnesses to be called and copies of any documents which they seek to introduce into evidence at the hearing, copies of which shall be furnished to the opposing party.
3. All hearings shall be open unless either of the parties request that the hearings be closed, in which case it shall be closed. If the hearing is closed, only the parties, their adviser, and the committee shall be present during the talking of evidence. Witnesses for either party shall be present only while giving testimony if the hearing is closed.
4. All hearings shall be tape recorded. The tape recording will be deposited in the

office of the dean of the Graduate School at the conclusion of the hearing.

5. The dean of the Graduate School or the dean of the affected college/school will ensure the appearance of those faculty members whose attendance has been requested by the committee.
6. Written statements in lieu of personal testimony may be used only with permission of the committee and only in those cases where the witness is physically unable to attend the hearing. The opposing party shall be given at least three days notice of the fact that an individual will not be physically present to give testimony and may object to the use of written statements. If the committee determines that the actual presence of the witness is required to ensure fairness to all parties, the hearing may be continued until such witness is physically able to attend the hearing.
7. Each party may call witnesses to present evidence. Each party shall have the right to examine any witness called by the opposing party.
8. The committee will decide all matters, procedural and substantive, by simple majority vote.
9. Each party may make an opening statement, no longer than fifteen minutes in length, before the presentation of any evidence. Each party may make a closing argument, no more than thirty minutes, following the conclusion of all evidence.
10. In the absence of compelling circumstance, the committee shall make its recommendation on the grievance to the dean of the Graduate School within fifteen working days after the conclusion of the hearing.

The recommendation of the committee is advisory in nature. The dean of the Graduate School shall decide to accept or reject the committee's recommendations and render a decision on the grievance within ten working days. The decision and the reasons therefore shall be submitted to the parties as well as the committee members within the same time frame. If the dean determines that additional evidence is necessary to decide a grievance, (s)he may remand the grievance to the committee for the taking of further evidence or may make arrangements for additional evidence to be presented within the office of the dean. The dean may limit the issues on which additional information shall be taken. When a grievance is remanded to the committee, the committee shall follow the procedures listed above in paragraph B.

In the event that the grievant does not accept the decision of the dean of the Graduate School, (s)he will be advised as to the next level at which the grievance may be taken.

Graduate School Procedures for Charges of Academic Dishonesty Leading to Possible Rescission of Degree

INTRODUCTION

Charges against a former student relating to acts of academic dishonesty in the submission of graduate degree requirements shall be handled to the extent feasible under the SIUC Student Conduct Code procedures applicable to charges relating to academic dishonesty. The dean of the Graduate School has the responsibility for the formal resolution of charges involving academic dishonesty in Graduate School programs. Since the Student Conduct Code procedures are not in all respects applicable to charges involving an individual no longer enrolled in the University, the following supplemental procedures will be followed for adjudicating such charges.

NOTIFICATION OF CHARGES

Charges against a former student involving allegations of academic dishonesty in the completion of graduate degree requirements shall be initiated by the dean of the Graduate School by letter to the individual, sent certified mail/return receipt requested, stating the specific charges, and the date, time, and place for the

hearing, and enclosing a copy of the Student Conduct Code and these procedures. The charge letter shall be mailed no less than 20 business days in advance of the date of the the hearing.

HEARING AGENT

Charges shall be heard by a five-member hearing committee, the members of which shall be appointed from those colleges/schools having graduate programs. Of the five members, three shall be appointed from the graduate faculty and two shall be appointed from the graduate student body. The dean will seek nominations for a committee hearing a case from the Graduate and Professional Student Council for the graduate student members, and from the Graduate Council for the graduate faculty members. The committee will be demographically representative of the University insofar as possible. The academic unit from which the charge arose will not have a member appointed to the hearing committee. Once a hearing committee is constituted it shall meet and elect its own chair from among its graduate faculty membership. The individual charged shall have the right to challenge membership of the hearing committee as provided in the Student Conduct Code.

HEARING PROCEDURES

Hearings shall be conducted in accordance with the formal disciplinary procedures set forth in the Student Conduct Code. In addition, the following procedures shall govern the conduct of the hearing.

1. The individual charged shall have the right to be accompanied by an adviser of his/her choice. An adviser will be permitted to advise the individual in the hearing, and to speak on behalf of the individual and cross-examine witnesses with the consent of the hearing committee.

2. The dean of the Graduate School and the individual charged shall provide to the hearing committee a list of witnesses to be called and copies of any documents which they seek to introduce into evidence at the hearing. The committee chair will furnish copies of these to the other party. Such witness list and documents shall be provided to the hearing committee not less than 10 business days prior to the date scheduled for the hearing, and to the parties not less than 5 business days before the date of the scheduled hearing.

3. All hearings shall be closed unless the individual charged requests that it be open. If the hearing is closed, only the parties, their adviser, and the committee members shall be present during the taking of evidence. Witnesses for either party shall be present only while giving testimony.

4. All hearings shall be tape-recorded. The tape-recording will be submitted along with the entire case record and the committee's findings and recommendations to the dean of the Graduate School following conclusion of the hearing.

5. Each party may make an opening statement before the presentation of any evidence and a closing argument following the conclusion of all evidence.

6. The charges against the individual and witnesses testifying in support thereof shall be presented first. The individual charged shall have the right to respond to the charges and present witnesses and evidence in his/her own behalf.

7. Each party shall have the right to ask questions of any witness called by the other party. Members of the committee may also question witnesses.

8. Written statements in lieu of personal testimony may be used only with permission of the committee and only in the event a witness is physically unable to attend the hearing. The opposing party shall be given notice at least three days prior to the commencement of the hearing of the fact that an individual will not be physically present to give testimony and so that objection may be made to the use of written statements. If the committee determines that the actual presence of the witness is required to insure fairness to all parties, the hearing may be continued until such witness is physically able to attend the hearing.

9. The hearing committee will decide all matters, procedural and substantive, by simple majority vote.

10. In the absence of compelling circumstances, the committee shall make findings and recommendations on the charges to the dean of the Graduate School within 15 business days after the conclusion of the hearing. The dean of the Graduate School shall render a decision, absent compelling circumstances, within ten business days after receipt of the committee's findings and recommendations. The decision and the reasons therefore shall be submitted to the individual charged by certified mail, return receipt requested, and to the committee chair. If the dean determines that additional evidence is necessary to decide the matter(s), the dean may remand the matter to the committee for the taking of further evidence, and in doing so, may limit the issues on which additional evidence may be taken. When a matter is remanded to the committee, the committee shall follow the procedures set forth above.

SANCTIONS

Sanctions which may be imposed include the completion of any additional academic requirements deemed necessary for continued holding of the degree, or, if it is found that the degree was improperly awarded because of academic dishonesty on the part of the former student in the submission of degree requirements, a recommendation that the degree be rescinded. A recommendation that a degree be rescinded will be made to the president through the vice president for Academic Affairs and Research, and will require final action by the Board of Trustees of Southern Illinois University.

APPEAL

If the individual is not satisfied with the decision of the dean, a written argument stating the reasons for such dissatisfaction may be submitted to the vice president for Academic Affairs and Research within ten business days after the date that delivery of the decision was tendered by the U.S. Postal Service to the individual. Such written argument shall be attached to the dean's decision and remain therewith throughout the remainder of the process.

Retention

Any graduate student whose grade point average falls below 3.00 will be placed on academic probation. Faculty of a degree program-unit may determine its own grade point average requirements (above the grade point minimum for retention in their particular program.) All 400- and 500-level courses taken after a student is admitted to the Graduate School are considered graduate level, unless the course is specifically designated, Not for graduate credit, for all students. Grade point averages for doctoral students are based on graduate credit work completed at SIUC after admission to the doctoral program. Grade point averages for master's degree students and unclassified graduate students are based on all graduate credit work completed at SIUC.

Any graduate student on academic probation whose grade point average remains below 3.0 for two consecutive semesters in which she or he is enrolled, excluding summer sessions, will be permanently suspended from the Graduate School, unless the department and the collegiate dean petition the graduate dean for an exception.

Graduation

Graduation ceremonies are held each year at the end of the spring semester and the summer session. Degree candidates must apply for graduation with the Office of Admissions and Records by no later than the end of the first week of the spring semester or summer session in which the student plans to graduate. Candidates who plan to complete requirements at the end of the fall semester should apply for

graduation during the first week of the fall semester. Although there is no ceremony at that time, degree candidates who complete requirements will have the fact that they have completed all requirements for the degree indicated on their academic records. The diploma will be issued at the time of the spring commencement.

Graduation application forms are available in the Office of Admissions and Records and may be obtained by mail by writing that office.

A \$15 graduation fee is established for all persons receiving degrees. The fee is payable at the time of application or the fee will be charged to the student's account. The fee does not cover the rental fee for the cap, gown, and hood, or the cost of the invitations. These items are ordered through the University Book Store in the Student Center and questions regarding them should be referred to the University Book Store. Doctoral students are also required to pay a fee of \$55.00 to cover the cost of publication of the abstract and microfilming of the dissertation.

Final, approved copies of research reports, theses, field studies, special project reports, and dissertations are due in the Graduate School office not later than three weeks before graduation. Doctoral students must also submit the microfilming agreement form and the survey form of earned doctorates at the time the dissertation is submitted.

Although attendance at commencement is not compulsory, students who wish to graduate in absentia must notify the Office of Admissions and Records in advance. This information is needed for seating arrangements and for mailing purposes.

Posthumous Degrees

A graduate degree may be awarded posthumously if, before the student's death, work for the degree had substantially been completed. This determination shall be the responsibility of the graduate dean in consultation with the administrative officers and faculty of the degree program in which the student had been enrolled.

Release of Student Information and Issuance of Transcripts

The University follows a policy for release of student information in compliance with federal regulations. More specific information may be obtained from the Office of Admissions and Records or from the Graduate School.

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: a transcript is sent, issued, or released only upon a student's request or explicit permission, except that such permission is not required when the University faculty and administrative officials or other educational institutions request transcripts for official purposes.

In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidentiality of the transcript is protected. One transcript will be issued directly to a student upon request. The transcript will have the statement, *Issued to the Student*, stamped on its face. Transcripts will be sent without charge to recipients other than the student as requested by the student. A transcript will not be sent, issued, or released if a student owes money to the University as verified by the Bursar's office.

2 Academic Programs

The official descriptions of programs leading to graduate degrees are outlined in this chapter. Admission and degree requirements which are listed in Chapter 1 are minimum standards. The student should consult the specific program description for additional criteria imposed by the department.

The titles of degree programs are listed below. The full descriptions, however, are arranged so that in cases where a department offers more than one program the various programs are grouped together under that department. All programs are cross-listed to aid in locating the official description.

Several departments offer one or more concentrations as noted in Chapter 1 within the major, the requirements for these concentrations may be found in the program description.

Accountancy	Health Education
Administration of Justice	Higher Education
Agribusiness Economics	History
Agricultural Education and Mechanization	Historical Studies (Ph.D.)
Animal Science	Journalism
Anthropology	Manufacturing Systems
Applied Linguistics	Mathematics
Art	Microbiology
Behavior Analysis and Therapy	Mining Engineering
Biological Sciences	Molecular Science
Botany	Music
Business Administration	Pharmacology
Chemistry	Philosophy
Cinema and Photography	Physical Education
Communication Disorders and Sciences	Physics
Community Development	Physiology
Computer Science	Plant and Soil Science
Curriculum and Instruction	Political Science
Economics	Psychology
Education (Ph.D.)	Public Affairs
Educational Administration	Recreation
Educational Psychology	Rehabilitation Administration
Engineering	Rehabilitation Counseling
English	Social Work
English as a Foreign Language	Sociology
Foreign Languages and Literatures	Special Education
French	Speech Communication
German	Statistics
Spanish	Telecommunications
Forestry	Theater
Geography	Vocational Education Studies
Geology	Zoology

Accountancy

The objective of the Master of Accountancy degree program is to provide an opportunity for students to achieve greater breadth and depth in the study of accountancy than is possible in the baccalaureate program. As preparation for a dynamic profession the curriculum fosters clear, logical, and analytical thought processes, effective oral and written communications, and life-long learning skills. Graduates pursue careers as professional accountants in public practice, industry, financial institutions, government, and other not-for-profit organizations.

Admission

Applicants for admission to the program are required to:

1. Complete all requirements for admission to graduate study as specified by the Graduate School.
2. Complete the Graduate Management Admissions Test (GMAT). Information regarding the GMAT is available through: Graduate Management Admission Test, Educational Testing Service, Box 966, Princeton, NJ 08540.

The results of the test must be mailed directly to the associate dean for academic programs, College of Business and Administration.

A non-refundable application fee of \$15.00 must be submitted with any application to the accountancy program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Admission to the program will be based on an undergraduate grade point average of 3.0 preferred; 2.5 minimum (4.0 = A) and an acceptable score on the GMAT. The minimum admission total of these two factors will conform to that recommended by the Master of Accountancy degree program advisory committee.

Students whose native language is not English will be required to obtain an acceptable score (presently 550) on the Test of English as a Foreign Language (TOEFL) examination before being admitted to the Master of Accountancy degree program.

Notification of admission to the Master of Accountancy degree program is by letter from the director, Master of Accountancy degree program. This letter must be presented by the student prior to enrollment and registration in the program.

Degree Requirements

The Master of Accountancy degree program consists of at least 30 hours of acceptable course work. At least 15 hours must be in 500 level accounting courses. A student's program will be designed to insure coverage in the 5 areas of accountancy: financial accounting and accounting theory, management and cost accounting, computerized management information systems, financial and operational auditing, and taxation. A specific program will vary depending upon the student's career objectives and interests.

Each student will be required to take the 5 core courses (15 hours) in accountancy, which expand coverage of the professional environment of accounting beyond that required in the baccalaureate program. These courses include such topics as the organization of the profession, its ethics and responsibilities, and the impact of governmental and private sector organizations on current and emerging accounting issues. The 5 core courses in accountancy at the graduate level which must be completed by all students are:

521 Emerging Issues in Accountancy
531 Controllorship and Policy
541 Tax Concepts (or Equivalent)

551 Accounting Information System
Concepts
561 Professional Dimensions of
Accountancy

A student who does not have any undergraduate work in accounting will be required first to make up deficiencies in the following areas: intermediate accounting, cost accounting, tax, accounting information systems, and auditing.

A student must also complete the common body of knowledge requirements specified by the AACSB. A student who has graduated from an undergraduate accredited (AACSB) business school should have met this requirement. A student who has any deficiencies in any areas required by the AACSB will be required to make up these deficiencies before receiving the Master of Accountancy degree.

Graduate accountancy courses from which a student may select to complete the 15 hours beyond the accountancy core requirements are:

522 Financial Accounting Theory	552 Accounting Information Systems II
529 Seminar in Financial Accounting	562 Advanced Auditing Topics
532 Controllershship	571 Not-For-Profit Accounting
542 Tax Research and Procedure	590 Seminar In Accounting
543 Corporate Taxation	591 Independent Study
544 Partnership Taxation	599 Thesis
545 Estate Planning	601 Continuing Research
546 Seminar: Selected Tax Topics	

After students have completed the accountancy hour requirements, they will select their remaining hours with the advice and consent of their advisers. Such courses will normally be selected from other graduate offerings in the College of Business and Administration. The full-time student who qualifies for the minimum program in terms of course work requirements normally may expect to complete the Master of Accountancy degree in one calendar year (two semesters and one summer session). The professional nature of this program requires that the courses, writing requirements, oral communications, special lectures, case studies, computer applications, colloquia, independent study, and research activities be presented in an integrated manner which stresses the program aspects at all times. This requires serious and extensive personal commitment to the program on the part of all candidates.

In order to meet the graduate requirements the student must obtain a 3.0 grade point average (4.0 = A) and obtain a B or better in eighty percent of all graduate level courses taken after admission to the M.Acc. program.

Areas of Emphasis

A student who has an undergraduate degree in accounting or one who has satisfied the accounting common body of knowledge may arrange the additional 15 hours of graduate courses beyond the core requirement to form a specific area of emphasis (taxation, information systems, managerial accounting and control, auditing, or not-for-profit accounting). Emphases are developed with the advice and consent of the student's adviser.

3-2 Program

A 3-2 program within the College of Business and Administration and the School of Accountancy is available to qualified students within the college, transfer students, and students majoring in areas other than business. The program permits a student to devote a part of the last 2 years of undergraduate study to fulfilling the foundation course requirements for business and accounting required for the Master of Accountancy degree. Upon completion of the requirements for the bachelor's degree, the student may apply for admission to the Graduate School and the Master of Accountancy degree program. Students who successfully complete the program would thus have a 5 year program required for certification in some states.

Concurrent J.D. and M.Acc. Program

A student who has been admitted separately to the School of Law and to the M.Acc. program may apply for permission to study concurrently for both the

Juris Doctor and Master of Accountancy degrees. This permission must be requested from both the School of Law and the School of Accountancy, ordinarily prior to entry into the second year curriculum of the School of Law.

During the first academic year of concurrent work on the two degrees, the student enrolls only in the first-year law curriculum. In any subsequent academic term, the student may enroll for courses either in the School of Law or in the Master of Accountancy program. A student registered for both law and graduate courses in the same term must enroll for a minimum of 10 hours in law, and 12 semester hours in total, in order to meet A.B.A. residence requirements and the academic requirements of the School of Law.

Completion of the concurrent program requires that the student successfully complete 81 semester hours of law courses and 30 semester hours of courses that meet M.Acc. requirements. Up to 9 semester hours of the 30 may be School of Law courses which are also part of the 81 hours required for the Juris Doctor degree. School of Law courses counting for graduate credit toward the Master of Accountancy degree must be approved by the director of the Master of Accountancy program. Further, no more than 6 of the 30 semester credit hours may be taken in courses at the 400 level for graduate credit.

Other Graduate Degrees Offered by the College

The College of Business and Administration also offers the Master of Business Administration (M.B.A.) degree with specialization in finance, management, and marketing and the Doctor of Business Administration (D.B.A.) degree. Information relative to these degrees may be obtained from the associate dean for graduate programs, College of Business and Administration.

Administration of Justice

The Center for the Study of Crime, Delinquency, and Corrections enjoys both a national and international reputation for quality research and an outstanding educational program. With the many relationships with operating agencies, students are afforded unique opportunities to gain practical experience as an integrated part of their academic work.

A number of opportunities for financial support are offered through the special programs and research projects conducted by individual faculty. In addition there are a number of fellowships offered, for which qualified students are encouraged to apply.

The Center for the Study of Crime, Delinquency, and Corrections offers the Master of Science degree in the administration of justice. This curriculum, a multidisciplinary study of crime, its causes and settings, and systematic means of reacting to it, prepares students for careers in law enforcement, correctional services and administration, teaching, criminal justice research and planning, and private security management. Augmenting the academic program, research activities provide opportunity for graduate students to work with faculty members conducting research related in the administration of justice and in designing innovative projects in the field. Internship placement is included as a required component to insure a blending of practical experience with the academic training received by the student.

Admission

Full admission to the graduate program requires at least a 2.7 overall undergraduate average and acceptance by the faculty. Scores on the Graduate Record Examination (aptitude portion only) or the Millers Analogies Test are also required.

Students who do not have an undergraduate degree in administration of justice should have a minimum of 12 units in sociology, psychology, political science, or

other social sciences. In cases where these criteria are lacking, additional selected undergraduate courses may be required for acceptance in this program.

An introductory statistics course which covers at least analysis of variance and least squares estimation is required of all incoming graduate students. This requirement can be satisfied in 2 ways: a) approval by the graduate affairs committee of a course previously taken by the student; or b) successful completion of an approved statistics course during the student's graduate course work.

Requirements

Required Core Courses. All candidates for the Master of Science degree in the administration of justice are required to fulfill 15 hours of core courses. These consist of 2 didactic courses:

AJ 500-3 Foundations of Criminal Justice

AJ 516-3 Scope and Methods of Criminal Justice Inquiry

In addition the student must take one research related course which provides skills that contribute to the generation of knowledge and more thorough utilization of existing information within the student's selected curricular emphasis. Appropriate courses should include quantitative methods such as AJ 517, Seminar in Advanced Quantitative Techniques in Criminal Justice Research; ED PSYC 507 or POLS 503; as well as courses in such areas as accounting, legal research, or computer science. The course to meet this requirement must be approved by the student's graduate adviser. The statistics requirement for incoming graduate students will not satisfy this requirement.

Two of the following 3 courses are also required.

AJ 504-3 Criminological Theory

AJ 562-3 Fundamental Legal Concepts in the Administration of Justice

AJ 584-3 Administration and Management in Criminal Justice

Curricular Emphases

An area of emphasis will be composed of 12 credit hours in addition to the required core courses, of which 6 are required to be selected from among administration of justice offerings (except for the security administration emphasis). Certain Curricular Emphases are required. They include but are not limited to the following:

Juvenile Delinquency. AJ 473-4, 474-3, 578-3; REHAB 452-3; SOC 562-4; and other courses approved the student's graduate adviser.

Law Enforcement. AJ 403-3 to 6, 587-3, and other courses approved by the student's graduate adviser.

Security Administration. BA 410-3, 440-3, 510-3, 543-3, 450-3; POLS 436-3, 444-3; IT 465-4; and other courses approved by the student's adviser.

Criminal Justice Counseling. AJ 402-3, 472-3, 571-3, 578-3; PSYCH 414-4, 421-3, 431-3, 440-3; REHAB 406-3; and other courses approved by the student's graduate adviser.

Correctional Administration. AJ 485-3, 472-3, 588a-3; POLS 436-3, 441-3, 443-3, 542-3, 543-3, 544-3, 545-3; REHAB 570-3, 573-2 to 3, 579-3; SOC 475-4, 539-4; and other courses approved by the student's graduate adviser.

Research in Criminal Justice. AJ 517-3, 580-3, 588b-3, and other courses as appropriate to the student's area of research and approved by the student's graduate adviser.

The Master of Science degree is thus broadly conceived so the student can seek

an individualized emphasis appropriate either to continued graduate studies or a particular field of work.

Supervised Field Work.

Supervised field work (internship) is required for all areas of emphasis. Students may take a total of 12 hours internship; however, only 6 hours may be counted toward the credit hours required for the master's degree.

AJ 595A-3 to 6 Supervised Field Work (internship) graded *S/U*

AJ 595B-3 to 6 Supervised Field Work (internship) letter graded

Students may successfully complete their graduate degree by pursuing either a thesis or non-thesis option.

Thesis Option

Students choosing the thesis option may take a total of 6 thesis credit hours (AJ 599-1 to 6); however, only 3 hours are counted towards the 36 credit hours required for the master's degree in this option. An oral defense of the student's thesis is required in this option.

Non-Thesis Option

Students choosing the non-thesis option may take a total of 6 individual research credit hours (AJ 591-1 to 6); however, only 3 hours are counted towards the degree requirements. Students in this option are also required to take an additional 3 hours in their curriculum emphasis, making a total of 15 hours of electives. Thus, 39 total credit hours are required in this option. Students pursuing this option are required to publicly defend their internship report and complete a written examination in lieu of an oral defense of their thesis.

Application forms for both the Graduate School and the Department of Administration of Justice must be separately submitted. Upon request to the department, application forms from the Graduate School and the department will be sent. Acceptance in the program is contingent on the final approval of the administration of justice graduate affairs committee after admission to the Graduate School.

More detailed descriptions of the graduate program, as well as information on graduate assistantships and fellowships, may be obtained by writing: Graduate Secretary, Center for the Study of Crime, Delinquency, and Corrections, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Agribusiness Economics

The Department of Agribusiness Economics offers graduate work leading to the Master of Science degree with a major in agribusiness economics.

Students interested in agricultural economics at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in economics.

Application forms for admission to the Graduate School may be obtained from the Graduate School. For entering graduate students to be acceptable on an unconditional basis in the agribusiness economics Master of Science degree program, a minimal undergraduate grade point average of 2.7 is required. Students may be accepted on a conditional basis if the GPA is below 2.7.

Inquiries for financial assistance and additional information would be directed to the chair of the Department of Agribusiness Economics, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Agribusiness Economics Concentration

Emphasis may be attained in farm management, agricultural marketing, agricultural prices, agricultural policy, resource economics, and agribusiness management and finance.

Undergraduate competence in economics and agricultural economics must be demonstrated. Students with an insufficient background in economics or agricultural economics may be admitted if remedial courses are taken.

A minimum of 30 hours of graduate credit, including a thesis, is required for the Master of Science degree major in agribusiness economics with a concentration in agribusiness economics. At least 15 hours must be at the 500 level.

Thirteen hours of agribusiness economics courses are required. This includes ABE 500a, 500b, 551, 552, and 581. In addition, the student's program is oriented toward either economics or business. The emphasis in economics is accomplished by completing six hours of graduate level courses in the Department of Economics. The emphasis in business is accomplished by completing six hours of graduate level courses in the College of Business and Administration. Such work completed as part of an undergraduate degree may be accepted in meeting the economics or business program requirements. This enables students with strong backgrounds in economics or business to take additional agribusiness economics courses or courses in their area of interest to meet the 30 hour M.S. degree requirement. Students are required to take 3-6 hours of thesis.

Agricultural Services Concentration

The agricultural services concentration is designed to permit students who are engaged in agriculture as extension workers, as soil conservation employees, in mechanization related industries, agricultural environmental service, etc., to expand their educational experiences in light of current and prospective employment goals and opportunities.

A minimum of 30 hours of graduate credit, including a thesis, is required for the Master of Science degree major in agribusiness economics with a concentration in agricultural services. At least 15 hours must be at the 500 level. Fifteen hours must be agricultural courses. Students are required to take 3-6 hours of thesis.

Agricultural Education and Mechanization

The Department of Agricultural Education and Mechanization offers graduate work leading to the Master of Science degree majoring in agricultural education and mechanization with concentrations in agricultural education, agricultural mechanization, and agricultural information.

Students interested in agricultural education at the doctoral level can be admitted to a program of study leading to the Ph.D. in education.

Application forms for admission to the Graduate School may be obtained from the Graduate School. For entering graduate students to be acceptable on an unconditional basis in the agricultural education and mechanization concentrations for the Master of Science degree program, a minimal undergraduate grade point average of 2.7 is required. Students may be accepted on a conditional basis if the GPA is below 2.7.

Inquiries for financial assistance and additional information should be directed to the chair of the Department of Agricultural Education and Mechanization, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Agricultural Education Concentration

The concentration in agricultural education is designed for instructors in secondary schools, for students preparing for employment at junior colleges, and for those desiring to continue their education by obtaining a Ph.D. degree.

A minimum of 30 hours of graduate credit, including thesis or research hours is required for the M.S. degree major in agricultural education and mechanization with a concentration in agricultural education. At least 15 hours must be at the 500 level.

A minimum of 15 hours is required in agriculture (including agricultural education), six hours of research methods or statistics, and six hours in education or community development. M.S. students usually take 46 hours of research or thesis, and complete the additional hours by taking courses in education or agriculture.

Agricultural Mechanization Concentration

The concentration in agricultural mechanization is designed to permit students interested in agricultural mechanization the opportunity to emphasize one or more of the following areas: (a) power and machinery operation and field testing, (b) product handling, processing, and storage, (c) farm equipment sales, service, and product education, (d) machinery selection and efficient utilization in the farming operation, (e) agricultural structures—sales and construction supervision, (f) agricultural electricity—service and consumer advisement, (g) conservation of soil and water. Each of these areas offers application in agricultural environmental studies.

A minimum of 30 hours of graduate credit, including thesis or research hours is required for the Master of Science degree with a major in agricultural education and mechanization with a concentration in agricultural mechanization. At least 15 hours must be at the 500 level.

Agricultural Information Concentration

The agricultural information concentration is designed to provide graduate training for extension agents, agricultural communication professionals, product-education specialists, and others who are interested in agricultural information processing and transfer to a variety of non-student clientele.

A minimum of 30 hours of graduate credit, including thesis or research hours, is required for an M.S. degree with a major in agricultural education and mechanization with a concentration in agricultural information. At least 15 hours must be at the 500 level. Fifteen hours must be agricultural courses. Students usually take 46 hours of research or thesis and complete the additional hours by taking courses in their concentration.

Animal Science

The Department of Animal Science, Food and Nutrition offers programs of study leading to the Master of Science degree with a major in animal science. Programs may be designed in the various disciplines of breeding, nutrition, reproduction, physiology, growth and development or production, with emphasis on beef cattle, dairy cattle, horses, poultry, sheep, or swine. Supporting courses may be selected in applied science, chemistry, microbiology, physiology, zoology, behavioral science, agriculture, etc.

Admission to programs administered by the Department of Animal Science, Food and Nutrition must be approved by the department. Application and reference forms will be provided upon request from the department. Applicants must have the registrar of each college previously attended send official transcripts directly to the Graduate School.

Requirements

Minimum requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit, with a minimum of 15 hours in animal science. A maximum of two animal production related courses (409, 419, 420, 430, 455, 465, 480, 485) may be counted for graduate credit. At least 8 hours of graduate credit must be earned outside the College of Agriculture. Minimal requirements for students entering the master's degree program are: (a) meet

animal science undergraduate requirements; (b) minimal GPA of 2.7 ($A = 4.0$); (c) CHEM 344 and 345 or organic chemistry equivalent.

Students who do not meet the undergraduate requirements may correct these deficiencies while an unclassified student or with the consent of the department during graduate study. Students entering the animal science graduate program with a GPA below 2.70 are accepted on a conditional basis and must enroll in 8 hours of structured courses at the 400500 level during their first semester and make a 3.0 GPA or be dropped from the program.

Each student, whether in the thesis or non-thesis option, will have an advisory committee of at least four members including the departmental chair and at least one other member of the department. Each master's degree candidate must pass a comprehensive oral examination covering all graduate work including the thesis or research paper.

Students interested in animal science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in physiology. The program, in the Department of Physiology, is adequately flexible to allow students to emphasize such areas as behavioral science, endocrinology, metabolism, microbiology, physiological genetics, or reproductive physiology. For admission requirements and program description the student should consult the physiology section in the *Graduate Catalog*.

Information concerning admission policies, requisites for graduation, and availability of financial assistance for graduate study in animal science may be obtained from the Department of Animal Science, Food and Nutrition, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Anthropology

The Department of Anthropology offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees. Within the Master of Arts degree program, the department offers a concentration in conservation archaeology. Provided the student has been admitted to the Graduate School and meets its requirements, acceptance and continuation in the graduate program are at the discretion of the Department of Anthropology.

The philosophy of the Department of Anthropology is to produce students with broad backgrounds in the major sub-fields of anthropology and expertise in particular specialty areas. Within this philosophy, and subject to the requirements discussed below, the department offers a flexible program which will serve students with diverse needs and goals.

Admission

The applicant to the anthropology program must send a completed application for admission to graduate study and certified copies of all transcripts directly to the Graduate School, and must meet all Graduate School requirements for entry. In addition, the applicant must send a completed personal data sheet and a statement of academic and professional goals, and arrange for three letters of recommendation to be sent to the director of graduate studies of the Department of Anthropology. Applicants interested in financial aid must also submit an application for graduate assistantships and fellowships. All necessary forms will be provided to applicants by the department. No special program of previous work is required. Applicants with academic degrees in fields other than anthropology are encouraged to apply.

Master's Degree Program

In addition to the master's degree requirements specified in the *Graduate Catalog*, the following departmental requirements apply to all M.A. degree candidates:

(1) Each student must complete the 5 core courses, ANTH 400A, B, C, D, and 409 with an average grade of *B* or higher, no more than one *C*, and no grade lower than *C*. These courses should be taken by new M.A. students within the first 2 terms, and must be completed by the end of the third term. Once the 5 core courses have been satisfactorily completed, performance in them together with an evaluation of the student's overall academic record will serve as a basis for departmental decision on retaining a student in the M.A. degree program. (2) Each student must complete 1 or more regular graduate-level courses or seminars in each of 3 subdisciplines of the student's choice (from among archaeological, linguistic, physical, sociocultural anthropology). (3) A further 6 hours of course work will be assigned by the student's committee after consultation with the student. These 6 hours may include up to 4 hours of graduate credit to meet tool requirements, and may not include more than 3 hours of independent study or thesis. No more than 3 hours of credit in ANTH 501, 590, and 599 (thesis) may be applied toward the Graduate School requirements of 30 hours of graduate course credit and 15 hours of 500-level credit. (4) Each student must demonstrate a reading competence in a relevant language foreign to the student (in the case of conservation archaeology specialists, this requirement is modified; see below).

Students entering the program may petition to have previously taken courses accepted for credit as equivalent to core courses in cases where the equivalence can be documented.

M.A. Degree Committee, Thesis, Research Paper. Each student in the M.A. degree program will consult with the director of graduate studies and relevant faculty members to select a three-person faculty committee, which will assume major responsibility for the student's advisement. At least 2 members of this committee, including the chair, must be from the Department of Anthropology, and the third member may be selected from outside the department. At least the chair should be chosen by the end of the first year, and the entire committee by the end of the third term.

Under the direction of the M.A. degree committee, the student will complete a thesis and register for at least three hours of Anthropology 599 while doing so. A student may submit a published paper, or one accepted for publication in an approved professional journal, instead of a thesis, or may be authorized by the department to substitute a research paper for the thesis. Passing of a comprehensive examination on the student's entire program is a Graduate School requirement. One properly bound copy of the thesis, research paper, or article must be deposited with the department before the degree is granted.

CONSERVATION ARCHAEOLOGY

The M.A. degree with a concentration in conservation archaeology is designed to meet the need for anthropologically trained archaeologists in the administration and direction of practical programs in conservation archaeology.

Requirements for this concentration are identical to those for any M.A. degree in anthropology, with the following exceptions. (1) Students need not take the linguistics core course. (2) Statistics may be substituted for the foreign language requirement. However, any student entering the Ph.D. degree program after obtaining an M.A. degree with this concentration must complete the linguistics core requirement and meet the foreign language requirement. (3) In conjunction with the course and distribution requirements for the M.A. degree, conservation archaeology students are responsible for ANTH 406, 430A, 576, and 6 hours of 590.

In addition to regular courses and seminars, the student is expected to engage in field and laboratory work. Archaeologists in the department and the Center for Archaeological Investigations involve conservation archaeology students in their contracts with private corporations and federal, state, and municipal governments.

Additional information on the organization and requirements of the conservation archaeology concentration may be obtained from the coordinator for conservation archaeology, Department of Anthropology.

Doctor of Philosophy Degree Program

Applicants to the Ph.D. degree program must complete the equivalent of the master's degree and apply directly to the Graduate School for admission as a doctoral student. Three letters in support of the application must be forwarded to the director of graduate studies in the Department of Anthropology. Students must also supply a statement of goals for their programs and subsequent professional careers. The department will offer an accelerated entry option to students who have been admitted at M.A. level and who are judged by the faculty of the department to be prepared to begin research at the doctoral level. Such students must complete at least one term in the M.A. degree program before being admitted at Ph.D. level, and must then meet all retention and exit requirements for the regular doctoral option. The student need not submit the application materials required of regular applicants to the Ph.D. degree program as outlined above.

No later than the spring semester of the first year after being admitted to the Ph.D. degree program, students are given a written preliminary examination over their choice of 3 of the 4 major sub-fields of anthropology. Students who fail the examination will be dropped from the program. Students who pass the preliminary examination or who are exempted from it will form a faculty committee in consultation with the director of graduate studies and relevant members of the faculty. The committee must include at least 5 members of the graduate faculty, at least 3 of whom (including the chair) must be from within the department, and at least 1 from outside: the normal case will be 4 from within and 1 additional.

The requirements for the Ph.D. degree include the following. (1) Additional course work in anthropology and other fields within the student's interests. Of the 24 hours of credit required to establish residency, 9 must be in 500-level anthropology courses other than 501, 585, and 597. The Ph.D. committee is expected to help formulate a study program that will usually involve at least one additional academic year of full-time course work beyond the M.A. degree. (2) Research tool requirements. These vary and will be determined between the student and the committee, subject to approval of the chair of the department. In all cases a certified reading knowledge of at least one foreign language will be required and at least one other tool. Other possible tools could include, for example, computer science, statistics, a second foreign language, or a combination of these or others. (3) Within a period not to exceed 3 years of full-time Ph.D. level work, administration by the committee of a three-hour special oral examination covering topical and geographical specialties. The student may not take the examination until 2 years of full-time graduate work have been completed, except by authorization from the dean of the Graduate School. In evaluating the examination, the committee may pass the student, fail the student but allow retaking of the examination at a later time (as either an oral or written examination, at the discretion of the committee) or fail the student and recommend dismissal from the program. If a student fails the examination and the committee allows reexamination, it must occur within one year of the first examination and only one retake is allowed. (4) Formal experience in teaching.

Ph.D. Candidacy. After completion of the above requirements, the department will recommend a student to the Graduate School for candidacy. The candidate will design dissertation research in consultation with the committee and will undertake the research necessary to acquire the materials for the dissertation. Candidates must register for 24 hours of credit under ANTH 600.

When a final draft of the dissertation has been accepted by the Ph.D. committee, an oral defense of the dissertation and all supporting work will be held in

accordance with Graduate School requirements. After a successful dissertation defense and completion of final revisions of the text, the student must submit two copies of the dissertation to the Graduate School in accordance with its guidelines, and a properly bound copy to the Department of Anthropology.

Art

In all of its graduate studio programs, the School of Art and Design strives to maintain a vital, creative ambience in which emerging artists with strong motivation may develop, through intensive studio practice and appropriate scholarly support, a clear, mature, and professional focus to their creative life. The core of any program is the in-depth studio practice of individual studio disciplines and frequent, sustained contact with working professional faculty and fellow students. This work is supported and extended through formal studio course work, studies in the history of art, and through access to the many resources and opportunities apparent in a large multi-purpose university.

M.F.A. Degree Program Description

The School of Art and Design offers graduate studies leading to the Master of Fine Arts degree with a major in art and offers studies supporting a teaching specialty in art for the Master of Science in Education degree with a major in secondary education. The student is expected to select an area of emphasis (studio or art education), and a program will be planned in consultation with the major professor in that area.

Admission

An undergraduate degree in art or art education, or the equivalent in course work or experience if the undergraduate degree is in another discipline, is required for admission into the Master of Fine Arts degree program. The student must also submit transcripts of all previous undergraduate work, present slides or a portfolio of creative work, and may submit letters of recommendation.

In most cases an undergraduate degree in art education is required for admission into the program constituting a teaching specialty in art for the Master of Science in Education degree majoring in secondary education. Any exception to these requirements must be approved by the faculty in the studio or art education fields and by the director of the School of Art and Design.

M.F.A. Degree

A minimum of 60 semester credit hours is required for the Master of Fine Arts degree with a major in art. All hours that are to count toward graduation must have the approval of the student's major adviser in the studio area of emphasis. Students may emphasize the following areas in studio: drawing, painting, print-making, sculpture/foundry, ceramics/glass, metalsmithing/blacksmithing, and fibers/weaving. The length of time required to complete a 60-semester-hour program is usually 5-6 semesters or 3 academic years. Most graduate students are in residence for at least 4 semesters. Programs of residency must have the approval of the student's major adviser. Required hours are distributed as follows: 26 hours in the primary studio emphasis, 12 hours in art history or related subjects, 6 hours in thesis or terminal project work, and 16 hours of elective study of which 9 hours must be in studio disciplines. The remaining hours may be elected from any area within the School of Art and Design or in the University at large.

In addition to the completion of course work, all candidates for the M.F.A. degree must, during the last semester of academic work, present a graduate exhibition, present a terminal project or a written thesis, and pass an oral examination. The terminal project is a creative activity presented in lieu of the

written thesis, and in practice, the graduate exhibition is considered to satisfy the terminal project requirement.

Graduate education in the studio areas of emphasis is expensive, and because of the individual nature of creative work, it is virtually impossible to predict the exact cost for each student. The School of Art and Design provides the faculty, and the studio and shop facilities that are necessary to the programs offered, but all other costs, especially materials, that are considered necessary to the successful completion of a graduate program are borne by the student.

Art as a Teaching Specialty

The Master of Science in Education degree with a major in secondary education with a teaching emphasis in art requires a minimum of 30 semester hours of graduate credit. Two art education program options are available: (1) the research option for those interested in research, supervision, or eventual doctoral studies, and (2) the teacher-studio option for improving teaching and studio skills.

The research option requires 13 hours in education, 11 hours in art education, 3 hours of thesis (or research paper) with the remaining hours for art electives. The teacher-studio option requires 13 hours in education, 6 hours in art education, 3 hours for thesis (or research paper) with the remaining hours for art electives. All hours that are counted toward graduation and election of either a thesis project or a research paper must have the approval of the art education graduate adviser.

Behavior Analysis and Therapy

(See Rehabilitation Institute for program description.)

Biological Sciences

A student may pursue a program of studies leading to the Master of Science degree majoring in biological sciences.

Requirements for Admission

1. Bachelor's degree with a major in a natural science department.
2. Admission to the Graduate School.
3. Approval of the director, graduate program in biological sciences.

Requirements for the Master of Science Degree Major in Biological Sciences

The student must complete 40 hours of graduate courses in the biological sciences. Special courses required of any student are to be determined by consultation between the student and the program committee, with the following provisions:

1. No more than 24 hours of credit in any one department may be used for the degree.
2. No minor is required.
3. Have at least 15 hours of credit in 500 level courses. These may not include more than 3 hours for special problems, 3 hours for seminars, and 2 hours for readings.
4. Complete at least one 400 or 500-level laboratory course in 3 of the departments of the biological sciences.
5. Submit a research paper.
6. Attend, for credit, at least 1 semester of seminar in 3 of the departments of the biological sciences.

Advisement

Guidance of students shall be by a program committee of 3 members, 1 from each of the biological science programs involved, or other departments at the discretion of the program committee. The program director will serve as an ex-officio member.

Graduate work may be taken in the Departments of Botany, Microbiology, Physiology, and Zoology to obtain a Master of Science degree major in biological sciences in the College of Science.

Additional information may be obtained from: Director of the Graduate Program in Biological Sciences, Life Science II, Room 148, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Botany

The Department of Botany offers a well-balanced graduate program leading to the degrees of Master of Arts, Master of Science, Master of Science in biological sciences, Master of Science in Education in biological sciences, and the Doctor of Philosophy.

The areas of emphasis are those of the broadly diversified faculty which characterizes the department and faculty members of other departments who participate in joint programs. All areas of botany are represented. The departmental master's programs and the doctoral program are based on a combination of course work and research. An advisory committee of faculty members from botany and other selected departments is responsible for the degree program of the individual student. At some stage in their overall programs, all students granted a degree will have completed training equivalent to 1 or more courses in each of 6 areas of botany (morphology, anatomy, taxonomy, genetics, plant physiology, and ecology).

The Department of Botany is housed in modern facilities in the Life Science II building. Each faculty member provides laboratory facilities for the students as part of the research program, and the department provides centralized facilities, including a growth chamber suite, herbarium, greenhouse complex, and field stations. Several University-owned field station facilities are located in southern Illinois, and University-affiliated field programs are carried out in the British Virgin Islands. Excellent cooperative research arrangements are available with other departments for such activities as electron microscopy, chemical analyses, and research photography.

A distinguishing feature of the Department of Botany is its congenial atmosphere. Individuals are encouraged to develop their own programs and research activities within the scope of available resources or those which can reasonably be attained. The first master's degree was granted in 1948, and the first Ph.D. degree in 1965. All areas of botany have been represented in the course of the department's history, with some shifts in emphasis according to both changing interests within the scientific disciplines and changes in the faculty and student population.

Graduate degrees in botany will be awarded to students in recognition of their ability to do independent research as evidenced by the acceptance of a thesis or dissertation and by the demonstration of competent scholastic ability. Teaching experience in undergraduate courses is expected as part of the Ph.D. degree program.

Admission

Students must be admitted to the Graduate School before they can be considered by the department. All applications to the department must include three letters of recommendation, application form, GRE scores including verbal, quantitative,

and advanced biological, and may include a financial assistance form. Criteria for admission include grade point average, letters of recommendation, and availability of faculty, space, and facilities.

Applicants must have completed a course (or equivalent) in each of the following areas (these may be completed concurrently with work toward the degree): (a.) general botany, (b.) plant diversity (survey of the plant kingdom), (c.) plant physiology, (d.) plant taxonomy, (e.) ecology, (f.) genetics, (g.) additional requirements for the B.A. degree as specified by the College of Science in the current Undergraduate Catalog of SIUC.

A student deficient in 3 or fewer of these areas (a through g) must be admitted with conditional standing. A student admitted with conditional standing must make up all deficiencies within the first academic year, and until such deficiencies are completed, no more than 10 academic units can be accrued toward the degree. Students lacking 4 or more of these areas must register as unclassified.

All deficiencies must be made up through the taking of pertinent undergraduate courses for credit with a grade of *on B off* or better in each.

Students desiring financial assistance should note that the deadlines for fellowship and assistantship applications are February 1 and March 1, respectively. Application forms are available from the director of graduate studies in the Department of Botany.

Advisement

Following admission to the department and before registration for course work, the student must consult a staff member representing the field of major interest or, if this is unknown, the director of graduate studies of the department, for assistance in planning first registration. At every registration, deficiencies and specific departmental requirements must be considered first. Any changes in registration must be approved by the student's adviser.

Within the first 6 months of admission into the departmental program, the student must select a faculty member who is willing to serve as the major adviser. The major adviser in consultation with the student, the director of graduate studies, and the departmental executive officer will then select an advisory committee with the major adviser as chair. For the master's degree program, a minimum of 3 people shall make up the advisory committee. At least half of the committee must be comprised of members of the botany faculty. The advisory committee for the Ph.D. degree program will be composed of at least 5 people, 3 of which must be botanists and 1 which must be from outside the department.

Following establishment of the advisory committee and before advance registration for the third term, the student will meet with the committee to discuss the program of courses for the degree and plans for research. In this regard, the committee is empowered to require work in fields with which the student's interests are allied. The advisory committee will advise the student on the selection of readings on general and historical topics of importance which may not be encountered in formal courses. Copies of the approved program of courses and the plans for research must be placed in the departmental files.

Research and Training Assignments. Research is required of each student in the program. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research or teaching. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from 10 to 20 hours of service per week.

Academic Retention

The general regulations of the Graduate School with respect to academic retention

shall be followed. In addition, no course in which the grade is below *on C off* shall count toward the degree or fulfillment of any requirement, but the grade will be included in the grade point average. No more than five hours of *on C off* work in graduate courses will count toward the degree.

All students are subject to regular review by the department's graduate policies committee. Those not attaining the minimum acceptable academic standards or who in any way fail to meet any other scheduled requirements or standards will be dropped as majors.

Course Requirements

All master's degree students must earn a minimum of 2 hours credit in botany seminars (BOT 580 or BOT 589), at least 1 of which must be in general seminar (BOT 580). All Ph.D. students must earn 2 hours credit in botany seminar (BOT 580 or BOT 589) every year of residence until admitted to candidacy and at least one credit each year must be in general seminar (BOT 580). It is strongly recommended that the student enroll in general seminars dealing with subjects other than the general area of emphasis being pursued. Attendance in general seminar (with or without credit) during every semester is strongly recommended.

Those students who have not already taken a course in plant anatomy must include BOT 400-4 Plant Anatomy in their graduate degree program.

Appeals

Appeals for variations from the departmental graduate program must be presented in writing to the botany graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total botany graduate faculty.

Appeals for changes in the student's graduate advisory committee or changes in the original program must be approved in the following order: (1) approval from adviser, (2) approval from remaining members of the student's advisory committee.

Student appeals for change of major adviser must be presented in writing to the botany graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total botany graduate faculty.

The Master's Degree

A minimum of 30 hours of graduate credit is required beyond the bachelor's degree, including no less than 22 hours of botany courses, 9 of which may be individualized instruction courses, including up to 3 (minimum of 2) hours of seminar, and up to 6 (minimum of 3) hours of thesis. A graduate minor of at least 10 graduate hours may or may not be required; this is to be determined by the student and the advisory committee. The M.A. degree requires an additional minimum of passing ETS examination in a foreign language or taking the appropriate 388 and 488 course and earning a grade of *on B off* or better in each. At the time of completion of the thesis, the student must schedule a public presentation of the thesis material (this is in addition to the comprehensive examination).

The Ph.D. Degree

Courses. The major shall consist of a minimum of 20 semester hours at the 400 and 500 levels in formal botany course work beyond the master's degree but excludes seminar, readings, research, dissertation, and research tool requirements.

The decision as to whether a minor shall or shall not be required shall be left to the student's advisory committee. If the committee requires a minor, it will determine the specifications of that minor.

The student shall demonstrate knowledge in each of the 2 foreign languages by passing an Educational Testing Service examination or taking the appropriate 388 and 488 course and earning a grade of *on B off* or better in each. The ETS

passing level for French and German shall be 465 and the ETS passing level for Russian and Spanish shall be 440. Proficiency in (a) statistics, (b) computer programming, or (c) scientific photography and scientific illustration may be required in lieu of one of the languages or in addition to the languages if the advisory committee so rules. A research tool to be substituted for one language must be completed utilizing formal courses consisting of at least 2 terms (at least 6 hours) with an average grade of *B* or better. Courses used to satisfy the requirement shall not be applied toward the total number of hours required for the degree.

Preliminary Examination. The student's advisory committee shall serve as the preliminary examination committee and shall prepare and administer the examination which will be both written and oral.

The written examination will be taken first and will cover the candidates' knowledge of botany and related fields and their history, the students' accomplishments in the course of study outlined, and the students' progress in the special field. The candidates will be expected to show an understanding of the application of their formal work to their field of research. The written examination will consist of three parts: the first will include questions in the students' special field of interest, the second will include questions testing basic knowledge in botany, and the third will include questions in the students' outside minor field or secondary concentration within botany.

The entire written examination is to last no longer than 5 days and each part is to last no longer than 8 hours. The student must pass all parts of the written to proceed to the oral examination. Pass means sufficient information is evident to permit the student to proceed to the oral part of the examination.

In order to pass the written examination, the vote of the advisory committee will determine (by majority vote) whether the student will be allowed to continue in the program and whether the student will be required to retake part or all of the written examination. Upon failing the written examination, the student may not retake the examination in the same academic term. In any event, the student must pass the written examination by the third attempt in order to continue in the doctoral program.

The oral examination will be taken no sooner than 10 days nor later than 30 days following the passing of the written examination. The examination shall last at least 2 hours and no more than 4 hours and should be scheduled to allow attendance of a maximum number of the botany graduate faculty and all of the advisory committee members. The student's answers to the written examination will be made available to the graduate faculty in botany (upon request) prior to the oral part of the preliminary examination. All attending graduate faculty members will be given the opportunity to express their opinion on the examination. Passage of the oral examination must be by unanimous vote of the advisory committee and may have conditions.

Final Examination. The final examination will be oral. It shall be held at least 1 month before graduation and shall last for no more than 3 hours. It is to cover the dissertation and related subject matter. The advisory committee must notify the graduate adviser of its recommendation for the date of the final examination at least 2 weeks before the examination.

Passage of the final oral examination should be construed to mean that there be no more than 1 dissenting vote of the advisory committee. In the event of failure, a second examination may be held as directed by the advisory committee.

Business Administration

The graduate faculty, consisting of members of the School of Accountancy and the

Departments of Finance, Management, and Marketing, offers graduate work leading to the Master of Business Administration degree, the Master of Accountancy degree, and the Doctor of Business Administration degree.

To support the graduate programs, the College of Business and Administration has a modern computer laboratory equipped with microcomputers and terminals for mainframe access. That laboratory is staffed with graduate assistants and has up-to-date spreadsheet and dBase software. In addition, the Computing Affairs Division on-campus maintains 2 additional laboratories which also contain microcomputers, terminals for mainframe access, and up-to-date software.

Master of Business Administration

The basic objectives of the Master of Business and Administration (M.B.A.) degree program are first, the development of professional managers and executives to serve the needs of business, government, and other organizations and second, the preparation of students interested in doctoral study. The program is designed to develop the individual's ability to comprehend internal and external social, legal, political, and economic forces as they affect the decision-making process within the organization. The curriculum enhances the student's professional and academic growth by:

Developing critical thinking skills through in-depth analysis of business problems.

Strengthening communication skills through class discussions, written assignments, and oral presentations.

Increasing organizational and leadership skills through team projects.

Broadening comprehension of the dynamics of the business environment through emphasis on the role of environmental variables affecting organizational performance.

Emphasizing the global nature of today's business environment and its impact on decision making.

Enhancing decision making skills in complex environments through the use of quantitative techniques, computer simulations, database management, and business games.

Bridging the gap between the theoretical and practical aspects of business through case analysis and projects with local businesses.

Providing professional development and networking opportunities through business-to-student seminars and speaker programs sponsored by the Graduate Business Association.

The program has been structured with flexibility so as to serve both holders of baccalaureate degrees in business administration and those who hold degrees in other disciplines. The M.B.A. program is accredited by the American Assembly of Collegiate Schools of Business.

Admission Requirements

Prospective degree candidates are expected to demonstrate a readiness for graduate study and an aptitude for successful performance in graduate level work in business administration. Admission to the program is based on the applicant's undergraduate record, a satisfactory score on the Graduate Management Admission Test, and other evidence pertaining to ability to perform well in graduate work in business administration. Special circumstances and work experience may be considered if presented. More specifically, the applicant must:

1. Meet all admission requirements set forth by the Graduate School. These requirements are outlined elsewhere in the catalog.
2. Complete the Graduate Management Admission Test and have the results of the test mailed directly to graduate programs, College of Business and Administration.

Information regarding this test is available by writing to: Graduate Management

Admission Test, Educational Testing Service, PO Box 6103, Princeton, NJ 08541-6103 USA.

To apply, one needs to complete and submit a Graduate School application and an M.B.A. Program application. Application materials may be obtained from: Graduate Programs, College of Business and Administration, Southern Illinois University at Carbondale, Carbondale, IL 62901.

A non-refundable application fee of \$15.00 must be submitted with any application to the M.B.A. or D.B.A. program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Application Deadlines

	Fall	Spring	Summer
Assistant Applicants	March 15	September 15	February 15
Fellowship Applicants	Nov. 15 of previous year (fall awards only)		
Other U.S. Applicants	June 15	November 15	April 15
Other International Applicants	April 15	September 15	February 15

Degree Requirements

A minimum of 36 semester hours of course work is required. Students must earn a 3.0 grade point average (4.0 = A) and a B or better in eighty percent of all graduate level course work beyond the foundation. Candidates who receive permission to write a thesis must complete a minimum of 33 semester hours of course work plus an acceptable thesis, for which 6 semester hours of credit are assigned.

Students who enter the M.B.A. degree program without the necessary foundation courses in the common body of knowledge of business and administration as specified by the American Assembly of Collegiate Schools of Business must complete them in a satisfactory manner. These students may be required to complete up to 29 semester hours of acceptable course work to satisfy this requirement. In addition, students must satisfy a computer ability requirement encompassing spreadsheet and database programs.

For courses taken to be evaluated as possible equivalents to M.B.A. foundation courses at SIUC, one needs to have earned a grade of C or higher in each and supply the M.B.A. academic adviser with the course syllabus for each course to be evaluated. Where syllabi are not available, a course catalog, or catalogs as appropriate, for the years the courses were completed may be presented. Transcripts may not be substituted for syllabi/catalog descriptions. This supporting documentation needs to be provided to the M.B.A. academic adviser at least 2 weeks in advance of one's first M.B.A. advisement appointment and subsequent registration.

The M.B.A. degree program course work to be taken beyond the foundation courses is determined on an individual basis in conference with the M.B.A. program academic adviser. All core and elective requirements must be met. For up-to-date information regarding the core and elective courses of the M.B.A. program, contact: Graduate Programs, COBA, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Students may choose to take all of their electives in a particular area such as accounting, finance, management, or marketing in fulfilling their electives, or, alternatively, take electives across 2 or more areas. Students may request approval to take one or more substantive electives outside of business that would provide training unavailable through business courses and would facilitate the student meeting career goals.

Transfer Credit

Within limits imposed by the policies of the Graduate School, an incoming stu-

dent may receive transfer credit for up to 6 semester hours of equivalent course work if the courses were taken at an AACSB accredited graduate school.

A graduate student who has 6 hours or less of course work remaining in their program may petition the master's programs committee for permission to complete up to 6 hours of equivalent course work at another AACSB accredited graduate school. The determination of equivalency is to be made by the director of the master of business administration program.

Course work from other than AACSB accredited graduate schools must be approved by the master's programs committee.

Academic Retention

In addition to the retention policies of the Graduate School, if a student receives a third grade of *C* or lower in any course designated as a foundation course, that student will be automatically suspended from the program. Similarly, if a student receives a third grade of *C* or lower in any core or elective course not designated as a foundation course, that student will be automatically suspended from the program.

If, at the end of any semester or session, for any reason, a student has 3 outstanding recorded grades of *Inc* or *Def* remaining on the grade record, that student will not be deemed to be making normal progress and will be placed on probationary status. If the student has 3 outstanding grades of *Inc* or *Def* remaining on record at the end of the next semester or session, the student will be suspended from the program. The definitions of *Inc* and *Def* may be found in the *Graduate Catalog*.

A student who is to receive a grade of *Inc* in a course is to meet with the instructor to work out a time and conditions for completion of the course within policy guidelines. Typically, a Notification of Incomplete Grade Agreement form is completed and the student is provided with a copy.

J.D./M.B.A. Concurrent Degree Program

The College of Business and Administration (COBA) and the School of Law together, offer the J.D./M.B.A. concurrent degree program. The J.D. degree alone requires completion of 90 semester hours of course work and the M.B.A. degree alone requires completion of 36 semester hours of course work; however, in the J.D./M.B.A. concurrent degree program the School of Law accepts 9 semester hours of business course work towards meeting the J.D. semester hour requirement and COBA accepts 9 semester hours of law towards meeting the M.B.A. semester hour requirement. The end result is that the concurrent degree program actually entails completion of 81 semester hours of law courses and 27 semester hours of business courses, with an 18 semester hours savings over pursuing both degrees separately outside of the J.D./M.B.A. concurrent degree program.

A student interested in enrolling in the J.D./M.B.A. concurrent degree program must apply both to the graduate program in law (which involves a law school application) and to the graduate program in business (which involves a Graduate School application and an M.B.A. program application) and be accepted by each program. The student may then request permission to pursue the concurrent degree program. This request must be made both to COBA and the School of Law and should be made prior to commencing the second-year law curriculum.

Doctor of Business Administration

The Doctor of Business Administration (D.B.A.) degree program is designed to prepare individuals for faculty research and teaching positions in academic institutions and for high-level administrative or staff positions in business, government, and other organizations. Candidates for the D.B.A. degree must demonstrate in-depth knowledge of business and administration and high potential to undertake significant research.

Admission Requirements

To be eligible for admission, students must have completed a master's degree or its equivalent. A grade point average in all graduate level work of 3.5 (A = 4.0) is preferred, but not less than 3.33 is permitted for admission.

To apply to the D.B.A. program, each applicant is required to take the Graduate Management Admission Test (of the Educational Testing Service) and have an official report of these scores sent to SIUC. The applicant needs to complete and submit a Graduate School application and a D.B.A. program application. Application materials may be obtained from: Graduate Programs, COBA, Southern Illinois University at Carbondale, Carbondale, IL 62901.

A non-refundable application fee of \$15.00 must be submitted with any application to the D.B.A. program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Degree Requirements

Students in the program must complete course work in certain foundation areas. A student who has completed successfully the requirements for the M.B.A. degree from an AACSB-accredited graduate business program will have met the foundation requirements. A student with a M.Acc. from an AACSB-accredited program will be expected to take some courses, to be determined by the student's advisory committee, outside the accounting area. All other students will either complete the following courses or demonstrate proficiency based on prior academic work.

BA 410-3 Financial Accounting

BA 526-3 Managerial Economics

BA 451-3 Methods of Quantitative Analysis

EPSY 506-4 Inferential Statistics

and 5 courses from any 3 of the following 4 areas:

a. BA 430, BA 510, BA 530

b. BA 450, BA 550, BA 598

c. BA 440, BA 540, BA 598

d. BA 452, BA 520, BA 560

In addition, the student must demonstrate proficiency in computer programming.

The student must complete a prescribed program of doctoral course work beyond the foundation work. A minimum of 60 semester hours is required: 12-18 hours in the major field; 6-12 hours in a support field; 6-12 hours of research tools; and 24 hours of dissertation credit. Additional hours may be required as prescribed by the student's advisory committee.

It is expected that all doctoral course work will be completed at SIUC. In exceptional cases, the advisory committee may consider petitions to accept credit, not to exceed 6 hours, for doctoral course work done at other institutions.

In addition to the retention policy of the Graduate School, for the D.B.A. program the third grade below *B* or the second grade below *C* in any graduate level course not designated as a foundation course will result in automatic dismissal from the D.B.A. program without any right of appeal.

Advisement

For each student an advisory committee is constituted and approved according to procedures described in the D.B.A. policies and procedures document of the COBA. The advisory committee is responsible for developing and approving a program of study for the student which meets all requirements of the Graduate School and the D.B.A. program. The specific program is designed in terms of the individual student's career objectives.

Preliminary Examinations

The preliminary examination is designed to determine the breadth and depth of the student's knowledge within the discipline. A minimum of 2 years of study (48 semester hours) beyond the baccalaureate must be completed before the student is permitted to sit for the preliminary examination, and the student must be in the last semester of all scheduled course work.

The preliminary examination has a written and oral portion. After successful completion of the written segment, the student will sit for the oral portion of the preliminary examination. Students who pass the oral portion will be recommended for candidacy when the residency and research tool requirements have been met. Students who fail the preliminary examination, or any part thereof, may petition to retake the examination or any part thereof.

Specific conditions may be stipulated before the student can sit for the examination a second time. Those who fail the preliminary examination a second time will be dismissed from the program.

Dissertation

Upon admission to candidacy, a dissertation committee is constituted and approved according to procedures described in the D.B.A. policies and procedures document of the COBA. The student will prepare a written proposal and submit it to the dissertation committee and make an oral presentation of the dissertation proposal. On acceptance of the written and oral presentation of the dissertation proposal by the dissertation committee, the student will proceed with further work on the dissertation topic. The dissertation committee will monitor the student's progress in completing the dissertation. A final oral examination will be administered by the dissertation committee and will cover the subject of the dissertation and other matters related to the discipline. Upon successful completion of the final oral examination, the candidate will be recommended for the D.B.A. degree.

Other Graduate Degrees Offered by COBA

The college also offers the Master of Accountancy (M.Acc.) degree. In addition, jointly with the School of Law the college offers the J.D./M.Acc. concurrent degree program. The reader is referred to the accountancy section of this catalog for details regarding the M.Acc. and J.D./M.Acc. programs.

For More Information

Additional information regarding the M.B.A. degree program or D.B.A. degree program may be obtained by contacting the Office of Student Affairs, COBA, Southern Illinois University at Carbondale, Carbondale, IL 62901. Additional information regarding the M.Acc. degree program may be obtained by contacting the School of Accountancy in the College of Business and Administration.

Center for the Study of Crime, Delinquency, and Corrections

(See Administration of Justice.)

Chemistry and Biochemistry

Programs leading to the Doctor of Philosophy and Master of Science degrees may be undertaken in the general areas of analytical, inorganic, organic, and physical chemistry, and in biochemistry and molecular biology.

The doctoral degree in chemistry is a research degree. To be awarded this degree, the student must demonstrate to the satisfaction of the graduate committee the ability to conduct original and independent research within some area of chemistry and must, in fact, make an original contribution to the science. The master's degree also requires a research project, but with less emphasis on originality and independence.

Admission

Each student must have a baccalaureate degree in one of the sciences, mathematics, or engineering to be considered for admission to an advanced degree program. An undergraduate major in chemistry, with the following courses, is desirable:

- (1) One year of organic chemistry (lecture and laboratory).
- (2) One year of calculus-based physical chemistry (lecture and laboratory).
- (3) One year of analytical chemistry including instrumental analysis.

Prospective students wishing to pursue the degree in the area of biochemistry and molecular biology are expected to have completed courses in organic chemistry, calculus-based physical chemistry, physics, and biology.

Students with deficiencies in any area may be admitted, but such deficiencies may restrict the research areas available to the student and lead to requirements for additional courses during graduate study.

Prospective students are encouraged to contact faculty in areas of the students' research interest.

Applicants are strongly encouraged to submit Graduate Record Examination (GRE) general test scores. Tests from one of the GRE subject test areas (chemistry or biology for students interested in biochemistry and molecular biology) are also encouraged.

Foreign students whose native language is not English will be required to obtain at least 550 on the Test for English as a Foreign Language (TOEFL).

Placement Examinations. One week before the beginning of classes, each admitted student will be given a written examination (ACS standard or equivalent examination) in the division of chemistry in which the student proposes to work. Students who are undecided about a division or who wish to work in a cross-divisional area should take examinations in 2 or more divisions. The results of these examinations are used to place the student in appropriate courses and to advise the student regarding any deficiencies to be corrected.

Formal Course Work Requirement. All graduate students must satisfy core course requirements of the major division. Students in the doctoral program must take for credit at least 6 semester hours of formal 500-level course work outside the major division. At least 3 of these 6 hours must be within the department. Students in the master's program must take for credit at least 3 semester hours of formal 500-level course work outside the major field. Certain 400-level courses within or without the department may be used to meet this requirement. Students may major in cross-divisional areas. In such cases the formal course work requirement will be modified by agreement of the student's committee and the graduate adviser.

Students in the doctoral program must present 3 departmental seminars for credit (CHEM 595). These include one based on a literature review, the second on the topic of an original research proposal, and the final seminar on the student's own research. Only the last 2 seminars are required of students entering the doctoral program with a recognized master's degree. Students in the master's program must present 1 departmental seminar for credit.

All students must take 1 hour of CHEM 597, Professional Training, each semester in residence.

All course work requirements of the department or the major division are minimum requirements which may be increased by the student's graduate committee.

Research Director and Graduate Committee Selection. Each student should select a research director and graduate committee preferably during the first semester, but no later than the end of the second semester in residence. The student must obtain a selection form provided by the graduate adviser and must interview at least 5 faculty members before selecting a research director and graduate committee. The committee shall consist of the research director (chair) at least 1 member of the major division other than the research director, a member outside the major division, and for a Ph.D. degree candidate a member outside the department. The chair of the Department of Chemistry and Biochemistry, if not otherwise appointed, is an ex-officio member of every graduate committee. A division may increase this requirement.

Graduate Committee Functions. The functions of the graduate committee are listed below.

1. To plan and approve the student's program of study.
2. To review the student's progress in courses and suggest and approve changes in the program of study.
3. To evaluate the student's progress in research and to make appropriate recommendations.
4. To determine whether a student may continue toward a degree. If continuation is denied, the committee must notify in writing the department chair of the reasons for this denial.
5. To read and evaluate the student's thesis or dissertation.
6. To conduct required oral examinations.

As soon as possible after being appointed, the committee will meet to plan the student's program. At this time the progress and program form is completed and filed with the graduate adviser. The committee may require preparation of a master's thesis even if directly pursuing a Ph.D. degree has been previously approved by the faculty.

Research Tools. The department requires no specific research tools. A student's graduate committee, taking into account the student's background and the needs of the research area, may require that the student acquire one or more research tools (e.g., foreign language, computer programming, statistics, and so on). Any research tool requirement must be completed before scheduling the preliminary oral examination for doctoral degree students or the final oral examination for master's degree students.

Assistantship Support. Continuation of assistantship support is contingent upon the student making satisfactory progress toward a degree. In addition, continuation of teaching assistantship support depends upon satisfactory performance of assigned duties. The Graduate School has established time limits for financial support.

First Year Evaluation. The faculty, meeting as a committee of the whole, will review the progress of all graduate students at the end of their first year in residence. For students in the doctoral program the faculty can:

1. recommend continuation in the doctoral program.
2. recommend transfer in the doctoral program.
3. request that the Graduate School terminate the student from the program (giving cause).

For students in the master's program the faculty can:

1. recommend petitioning the Graduate School to allow entry to the doctoral program (accelerated entry option). Such petition can be made any time after one semester in residence.

2. recommend continuation in the master's program with the option to petition the Graduate School to grant a master's degree equivalency. When granted, this allows the student to apply for entrance to the doctoral program without writing and defending a thesis.
3. recommend continuation in the master's program with option to petition to enter the doctoral program after completion of a master's thesis.
4. recommend continuation in a terminal master's program.
5. request that the Graduate School terminate the student from the program (giving cause).

Preliminary Examination for the Ph.D. Degree. Each student in the doctoral program must pass a preliminary examination before being advanced to candidacy. The written portion of the preliminary examination is given cumulatively with 10 examinations scheduled each calendar year. The student must pass 4 examinations in no more than 10 consecutive trials. Students must begin cumulative examinations no later than the semester following completion of the divisional core course requirements. After the student completes the cumulative examinations, the preparation and defense of an original research proposal will serve as the oral portion of the preliminary examination.

Summary of Ph.D. Degree Requirements. Each student must fulfill the requirements of both the Graduate School and the Department of Chemistry and Biochemistry. These requirements are:

1. to fulfill the divisional course requirements.
2. to complete at least 6 hours of formal course work at the 400/500 level outside the major division, at least 3 of which must be within the department.
3. to complete a course of study as determined by the graduate committee.
4. to maintain at least a 3.00 grade point average.
5. to attend weekly seminars and earn 2 credit hours of CHEM 595 beyond the master's degree requirement by presenting departmental seminars.
6. to earn at least 32 credit hours in research and dissertation (CHEM 598 and 600).
7. to satisfy any research tool requirement established by the student's graduate committee.
8. to pass a series of cumulative examinations which shall serve as the written portion of the preliminary examination.
9. to prepare and defend an original research proposal which shall serve as the oral portion of the preliminary examination.
10. to complete a research project and to prepare a dissertation acceptable to the student's graduate committee and the Graduate School.
11. to schedule and pass a final oral examination (defense of dissertation).

Summary of Master's Degree Requirements. Each student must fulfill the requirements of both the Graduate School and the Department of Chemistry and Biochemistry. These requirements are:

1. to fulfill the divisional course requirements.
2. to complete at least 3 hours of formal course work at the 400/500 level outside the major division.
3. to complete at least 21 hours of formal course work at the 400/500 level with grades of A, B, or C.
4. to earn at least 30 credit hours at the 400/500 level, at least 15 of which are at the 500 level.
5. to maintain at least a 3.00 grade point average.
6. to attend weekly seminars and earn 1 credit hour of CHEM 595 by presenting a departmental seminar.
7. to earn at least 8 credit hours in research and thesis (CHEM 598 and 599).

8. to satisfy any research tool requirement established by the student's graduate committee.
9. to prepare and present a thesis on the research carried out.
10. to schedule and pass a final oral examination.

Cinema and Photography

The Master of Fine Arts degree in cinema and photography is intended to provide substantial advanced training for a small number of highly talented individuals. Emphasis in the program is upon the artistic development of the individual student and the student's creative utilization of cinema or photography.

Students may elect to concentrate in cinema or photography. While concentration is a vital component of the program, our philosophy is that graduate study should increase the options available to the student upon graduation; therefore, cross-disciplinary study is encouraged. Strong supporting course work is available in the areas of theory, history, and scriptwriting; through the School of Art and Design, course work in the other fine arts is also available. A distinguished faculty of 12, excellent facilities, and a large variety of curricular offerings allows the students to individually tailor programs to meet their post-graduation goals.

Acceptance into the program and subsequent continuation in it are at the discretion of the Graduate School and the Department of Cinema and Photography. Minimal admission requirements are those of the Graduate School. Students should contact the director of graduate studies, cinema and photography, regarding admission procedures to the program. Prior to admission to the program, students must satisfy the departmental faculty that they are artistically qualified by presenting evidence of exceptional talent in 1 of the 2 concentrations offered in the degree program. This evidence will ordinarily consist of a portfolio of photographs or 1 or more films. In addition, applicants must arrange for 3 letters of recommendation to be forwarded in support of their application. It is assumed that most of the students applying for admission to the M.F.A. program will be graduates of institutions other than SIUC. All such students would ordinarily provide evidence of having completed training of a thoroughness and quality equivalent to that offered in the undergraduate program of the Department of Cinema and Photography. Students with an M.A. or M.S. degree will also be considered for admission. It is recommended that students wishing to emphasize in still photography have a course work background equivalent to C&P 310, 311, 320, and 322. It is recommended that students wishing to emphasize in cinema have a course work background equivalent to C&P 355, 356, 360, and 368.

In addition to the above admission requirements, an interview with the department's graduate committee is highly recommended, particularly for students with minimal course work in the field.

A graduate student entering the M.F.A. program is normally expected to spend the equivalent of 2 academic years fulfilling required work. If the student lacks adequate course work preparation, or if the student serves as a graduate assistant, a longer period may be required. Students' creative work and artistic abilities are reviewed at the end of their first year in the program. If the faculty should conclude that a student has not made sufficient progress, such a person would be dropped from the program. In the second year of residence, each student would be engaged in a great deal of independent artistic work culminating in the M.F.A. creative project, involving the completion of one or more photographic exhibits or the completion of one or more motion pictures. The exact nature of the project would be determined in consultation between students and their committees. All creative projects would have to be exhibited publicly before the department would consider this requirement satisfied.

After the first semester the department chair appoints, in consultation with the

student, and the director of graduate studies a major adviser and a committee of two additional graduate faculty members. This committee develops a specific plan of study with the student, considering not only the requirements of the Graduate School and of the degree program, but also the goals of the student. The major adviser supervises the creative project. The University reserves the right to retain a portfolio of each student's work. An oral examination by the faculty advisory committee would focus on an evaluation of the project. A formal report describing the project must be filed with the Graduate School.

Degree requirements are 60 semester hours, including 30 hours at the 500 level.

Course Requirements

Photography

12 credits from C&P 401, 402, 404, 405, 418, 420, 421, 422, 423, 424;

6 credits from C&P 471A/B;

9 credits from C&P 597;

6 credits from C&P 541A/B;

6 credits from C&P 575;

4 credits from C&P 595A;

14 credits from general electives;

6 credits from C&P 598.

Cinema

12 credits from C&P 452, 454, 455, 456, 470B;

6 credits from C&P 472A/B;

9 credits from C&P 597;

6 credits from C&P 542A/B;

6 credits from C&P 468 and 574;

4 credits from C&P 595B;

14 credits from general electives;

6 credits from C&P 598.

Completion of an M.F.A. creative project (registration for at least 6 hours in C&P 598 required).

An oral final examination over the M.F.A. creative thesis.

Communication Disorders and Sciences

The Department of Communication Disorders and Sciences offers graduate work leading to the Master of Science and Doctor of Philosophy degrees. The program in communication disorders and sciences at the master's level is designed to develop competence in the assessment and treatment of persons with communication disorders. The Ph.D. degree program has as its objective the training of advanced students to become researchers and educators in specialized areas in speech/language pathology or audiology.

Course work at the master's level should be planned to meet the academic and professional requirements for state and national certification, which are required for professional employment. The M.S. degree program in speech pathology or audiology should culminate in eligibility for one or both of the following certificates: (a) the special certificate in speech and language impaired of the Illinois State Teacher Certification Board; (b) the Certificate of Clinical Competence of the American Speech-Language-Hearing Association. ASLHA certification is required for work in agencies, hospitals, medical centers, and higher education settings. The speech pathology and audiology program is approved and registered with the Education and Training Board of the American Board of Examiners in speech pathology and audiology.

The departmental programs in speech pathology and audiology match the requirements for certification which state that the student must complete a

well-integrated program comprised of a minimum of 60 semester hours, including normal aspects of human communication, development thereof, disorders thereof, and clinical techniques for evaluation and management of speech, language, or hearing disorders. Thirty of the 60 semester hours must be in courses that are acceptable toward a graduate degree by the university in which they are taken.

GRE aptitude test scores must be submitted upon application. While they are not mandatory for admission, the scores must be submitted no later than the end of the first semester of residence.

A number of graduate assistantships and fellowships are made available by the College of Communications and Fine Arts and the Graduate School each year. The assistantship awards of the College of Communications and Fine Arts are usually made in the spring for the following academic year by the department. Students may also apply through the department for graduate fellowships and dissertation research grants that are awarded annually by the Graduate School.

Professional experiences for graduate students are provided in a variety of clinical settings: the University's clinical center; area special education facilities; the V.A. Hospital in Marion; nursing homes; Choate Mental Health and Developmental Center; and Good Samaritan Hospital in Mt. Vernon. Cooperative programming is maintained with Marion School for the Deaf, other public and private agencies such as the Division of Vocational Rehabilitation, the Easter Seal Society, and the University of Illinois Division of Services for Crippled Children. Students participate in traveling speech, language, and hearing clinics which serve schools and communities through the media of surveys, diagnostic examinations, and therapy.

Specialized experiences with orthodontists, prosthodontists, plastic surgeons, otologists, and others of the medical and dental professions are also available in the Carbondale, St. Louis, and Chicago areas as well as the medical school at Southern Illinois University. Emphasis is placed on interdisciplinary relationships with other professions throughout the training process.

The department maintains many active research facilities which provide laboratories and specialized equipment for the study of both the normal and impaired functions of the speech, language, and hearing processes. The speech science laboratory is equipped for electromyographic study of the speech musculature, radio telemetry, electrophysiology of hearing, and spectrographic analysis of speech signals. The experimental audiology laboratory, which includes a large anechoic chamber, is equipped for investigations in hearing sensitivity, localization, central tests, speech discrimination, and evoked response audiometry. The laboratory also has equipment needed for studies in automatic audiometry, middle ear immittance, and acoustic reflex experimentation. This laboratory also has equipment for the measurement of physiological indices of emotion, such as electrophysiologic skin measurements. The department maintains its own mainframe computer terminal and microcomputer laboratory. The availability of sophisticated instrumentation has made programmatic approaches to language research problems possible in the language laboratory. The department also maintains extensive materials for the study of organic problems.

Additional information regarding financial aid, programs, and application procedures can be secured by writing to the chair, Department of Communication Disorders and Sciences, Southern Illinois University at Carbondale, Carbondale, IL 62901. Inquiries from qualified graduates in other fields are welcomed, particularly those interested in interdisciplinary programs.

Master's Degree Program Leading to Certification in Speech Pathology or Audiology

The master's degree requires a minimum of 30 semester hours of acceptable graduate credit (3.0 average), at least 15 semester hours of which are at the 500

level, and the completion of an approved thesis or research project. Specific course requirements and total number of hours are generally determined by advisement after consultation with the graduate student.

Students are encouraged to follow one of the following plans in speech pathology or audiology.

Predoctoral (Thesis) Program: Certification in Speech Pathology.

Professional Courses: 15 hours from CDS 505, 507, 510, 512, 420

Research Tools: 3 hours from CDS 500: and 6 hours from CDS 431 or 503

Research Design or Statistics: 3

Electives: 3 hours selected CDS 408, 431, 503, 517, 521, 525, 526, 528, 530, 533, 536, 540, 541, 544, 548, 550

Thesis: 3

Total: 30

Terminal (Nonthesis) Program: Certification in Speech Pathology.

Professional Courses: 17 hours from CDS 505, 507, 510, 512, 408, 420

Research Tools: 6 hours from CDS 500 and 431 or 503

Electives: 6 hours selected from CDS 408, 431, 503, 517, 521, 526, 528, 530, 533, 536, 540, 541, 544, 548, 550

Research Paper: 1 hour from CDS 593

Total: 30

Predoctoral (Thesis) Program: Certification in Audiology.

Professional Courses: 21 hours from CDS 420, 521, 525, 526, 528, 530, 503.

Research Tools: 6 hours from CDS 500 and a statistics course

Thesis: 3

Total: 30

Terminal (Nonthesis) Program: Certification in Audiology.

Professional Courses: 21 hours from CDS 420, 521, 525, 526, 528, 530, 503

Research Tools: 3 hours from CDS 500

Electives: 3 hours from CDS 507, 517, 540, 541

Research Paper: 3

Total: 30

In addition to the academic programs detailed above, certification in speech pathology or audiology requires a minimum of 300 clock hours of direct supervised clinical contact of which 150 clock hours must be at the graduate level. The state certificate requires that 100 of the 300 clock hours be in a public school setting. The College of Education is entitled to certify students for the public schools; the Department of Communication Disorders and Sciences is entitled to certify students for the American Speech Language Hearing Association. Before graduation, a comprehensive examination as required by the Graduate School for non-thesis programs will be given by the faculty. This examination is generally scheduled after the student has completed at least two semesters of full-time work.

Admission and Program Requirements for Direct Post-Baccalaureate and Accelerated Entry Options for the Ph.D. Degree in Communication Disorders and Sciences

A student with a baccalaureate degree may apply for entry to the Ph.D. degree program via the direct post-baccalaureate option. Or, after one semester in the master's program, a student may petition the graduate committee for admission into the Ph.D. degree program via the accelerated entry option.

Regarding direct post-baccalaureate entry, the student must have earned an undergraduate GPA of 3.75 or greater, in an ABESPA accredited program. A student out of a discipline other than communication disorders and sciences must

have earned a GPA of 3.75, or greater, from a similarly accredited academic program. The student must present to the graduate committee a GRE composite score of 1200 or above or an equivalent Miller's Analogy score. The student must have experience beyond the minimum ABESPA undergraduate curriculum such as undergraduate research, graduate level course work, advanced undergraduate course work, or undergraduate honors thesis.

For accelerated entry, the student must earn a GPA of 3.75 or greater after 12 hours of master's level communication disorders and sciences course work in the communication disorders and sciences M.S. program and must present to the graduate committee substantive evidence of research ability. The graduate committee must agree unanimously that the evidence presented represents extraordinary abilities.

For both the direct post-baccalaureate and accelerated entry options, the student's application will be scheduled for discussion by the faculty. A two-thirds majority of the eligible voting members in support of the admission will be required. The retention criteria for students admitted through either the direct post-baccalaureate or the accelerated entry options will be the regular Ph.D. degree program retention criteria.

Students admitted by either the direct post-baccalaureate or the accelerated entry option must complete the following requirements: all M.S. degree program requirements save the thesis/research paper requirement and all regular Ph.D. degree program requirements.

All Ph.D. students admitted via the direct post-baccalaureate or the accelerated entry option must petition the graduate committee for permission to begin working on the Ph.D. degree requirements once the M.S. degree requirements have been completed. The petition must contain direct evidence of advanced scholarship and substantive evidence of research productivity. The graduate committee will recommend acceptable petitions to the faculty for consideration. A majority of the voting members must approve the petition. Only then may the student address the Ph.D. degree requirements.

A student admitted through either the direct post-baccalaureate entry or the accelerated entry option may withdraw from the Ph.D. degree program by petitioning the graduate committee. In order to obtain the M.S. degree, the student must complete all outstanding M.S. degree requirements.

Doctor of Philosophy Degree

Students, after consultation with their academic advisers, are expected to propose to the graduate faculty of the department the academic program they intend to pursue prior to taking the preliminary examination for admission to candidacy. The proposed program must meet the Graduate School requirements for residency, and shall exclude course work designed to meet the research tool requirement. The program must also include a cognate area which will assure a meaningful competence in subject matter outside the student's major department. Graduate faculty approval of the proposal signifies an agreement between the student and the department. Students are encouraged to use the following plan in designing their programs.

Doctoral Program in Communication Disorders and Sciences.

Professional emphasis areas: 15

Area A: Speech Rehabilitation 15 hours from 510, 512, 528, 533, 536, 540, 541, 544, 548 or;

Area B: Language Rehabilitation 15 hours from 505, 507, 517, 533, 536, 540, 541, 544, or;

Area C: Hearing Rehabilitation 15 hours from 521, 525, 526, 528, 530, 533, 536. Requirements Outside of Emphasis: 9 CDS hours to be selected from areas other than the principal area of emphasis (see areas A, B, C above).

Basic Core Program: 6 hours from CDS 503, 550:

Cognate Area: 6

Research Tool (See description that follows).

Dissertation: 24 hours from CDS 600 and 601

Total: 60

Research Tool. The research tool shall replace neither a required nor a prerequisite element of the student's proposed academic program and must be completed before the student will be permitted to take the preliminary examination for admission to candidacy.

The student must demonstrate an ability to deal with descriptive and inferential statistics and research design techniques. Ordinarily this will be accomplished by completing an appropriate sequence in statistics, as approved by the graduate committee of the Department of Communication Disorders and Sciences. Competency will be demonstrated by achieving a *B* average in the course sequence, or by proficiency. The sequence should be considered to be outside of any specific degree requirement.

Preliminary Examination. After satisfactory completion of a majority of the course work inside and outside the area of emphasis, the basic core courses research tool, and the cognate requirements, students may request the preliminary examination. The preliminary examination shall be written and administered by no fewer than 5 graduate faculty members representing the area of emphasis, cognate, and research interests. Should students fail the first examination, they may, with faculty approval, repeat the examination once within a 12-month period.

Dissertation. After successful completion of the preliminary examination, the student will be recommended to the Graduate School for admission to candidacy for the degree. The candidate must then complete a dissertation demonstrating capability in independent research.

The final examination for program completion shall be oral and cover the subject of the candidate's dissertation and related academic and professional matters.

Community Development

Community development is a program of graduate studies in the applied social sciences leading to the Master of Science degree.

Community development practitioners share a common concern; the alleviation of social problems through community and social change. This concern is expressed through a range of professional activities such as organizing tenant unions, training officers of consumer co-operatives, negotiating foundation grants for community cultural centers, designing community education outreach programs, or researching community issues.

Most community developers are both specialists and generalists; specialists in the sense that they possess technical knowledge and experience in such fields as economics, education, ecology, agriculture, urban affairs, administration, planning, or research; but generalists in their understanding and skill in facilitating processes of social change. Their process skills of working with people have made community developers indispensable to a large number of public and private programs. By developing organizations and institutions through which citizens can participate in policy formation and implementation, community developers are finding an increasing number of opportunities for themselves and the practice of their profession.

The community development program has 5 full-time faculty members with professional expertise in several fields and academic settings. Academic credentials include doctorates in education, anthropology, behavioral sciences, sociology, and political science. Past national and international field experiences of present faculty members include service with the Agency for International Development, the American Friends Service Committee, UNICEF, the World Bank, the Peace Corps, Vista, the National Scholarship Service, and Health Systems Agencies. Faculty are also involved in a variety of on-going community development activities at the local level, which include students as interns and graduate assistants.

Several community service programs are operated out of the community development program. A University Year for Action project provides interns for numerous human service programs in Southern Illinois; Peace Corps training programs help prepare volunteers for work in Africa and the South Pacific. Recent research projects include a folklife inventory documenting the social traditions and heritage of Southern Illinois' diverse populations and a study of rural human services delivery.

Admission Requirements

A baccalaureate degree is necessary for admission. However, application to the program may be made before graduation during a student's senior year.

Admission to the program is not based solely on a student's grade point average. Much weight is given to a student's commitment to action for human betterment, seriousness of purpose, and past experience in working on social and community problems. Current community development students include Peace Corps returnees, ex-Vista volunteers, community workers, and senior agency officials as well as recent college graduates.

Prerequisites

The prerequisites are 3 upper-division courses in the social sciences with a *B* grade or better, 3 semester hours of social science statistics at the undergraduate or graduate level, and proficiency in written communication. The social science courses should be in at least 2 of the following disciplines: political science, sociology, anthropology, social psychology, economics. The prerequisites may be satisfied after admission into the program.

THE SIUC COMMUNITY DEVELOPMENT CURRICULUM

The community development Master of Science degree program at SIUC offers several career emphases: community planning, community organizing, community relations training, community education, community research, and community program administration.

All students are required to take core courses totaling 30 semester hours plus 14 semester hours in their special emphasis. Students may design their courses of study to focus on particular interests or skills.

Course of Study

The 44 credit hour program consists of a core curriculum, including a supervised field internship, a minor or area of emphasis, and 1 of 4 master's degree options related to the emphasis. Core curriculum courses are on community organization, social change, research methods, and group process. The minor and electives are selected by students from courses related to their career objectives, and may be found within the community development program or other departments in the University. Students with extensive prior community development experience may have their internships waived under certain conditions.

Community Development Core Requirements (30 semester hours)

CD 401-3 Introduction to Community Development

CD 500-3 Research Seminar in Community Development

CD 501-4 Small Group Process in Community Development

CD 502-3 Community and Change

CD 503-3 Problems of and Approaches to Community Development

CD 589-2 Professional Seminar in Community Development

CD 595-7 Internship

Options to complete master's degree (5 semester hours) are either a thesis, research report, extended minor, or master's project. These 5 hours may be earned in one of the following ways:

1. CD 599-5 Thesis Research
2. CD 593-5 Individual Research in Community Development (for research report or master's project)
3. Five semester hours in 400 or 500-level courses in addition to the 9 hours in the regular minor (for extended minor).

Other Course Requirements

(14 semester hours)

a. Minor (9 semester hours): at least 9 hours of 400- and 500-level courses in one or more disciplines, either in community development program areas of emphasis, or other areas selected by the student and approved by the community development faculty. Lists of recommended courses are maintained by the program.

b. Electives (5 semester hours): additional 400 and 500-level courses in the minor, elective community development courses, or other university departments are selected by the student. Community development electives are:

CD 402-3 Comparative Community Development

CD 403-3 Community Organization

CD 404-3 Role Theory and Analysis in Community Development

CD 405-3 Social Planning

CD 491-1 to 6 Independent Study in Community Development

CD 497-1 to 12 A-E, Seminar in Community Development

Field Internship

The field internship is required for the Master of Science degree and consists of approximately 350 clock hours of supervised field work in a community development project. The professional CD 589 Seminar in Community Development must be taken prior to or concurrently with the field internship.

The objective of the field internship program is to provide a practical field experience in which students are exposed to some of the challenges and rewards of community development work. It is designed to test and develop skills, provide opportunity for personal and professional growth, and increase the ability to understand and analyze practical experience. In most cases, the intern is working with a group of persons sharing a common need or problem. The thrust of the project is to encourage self-help approaches to problem-solving and constructive change. The intern is expected to have a significant responsibility for the project's planning, execution, and outcome. The field internship requirement applies to all M.S. degree candidates. The field internship may be waived in exceptional cases where a student has extensive professional experience in community development work.

Options for Completion of the Requirements for the Master's Degree

Four options are available to complete the requirements for the Master of Science degree in community development: a master's thesis, a research project, an extended minor, or a master's project. The master's option selected by the student

and approved by the program must be related to the student's area of emphasis or minor. At the completion of 24 hours of course work, the student declares and defines a master's option.

Thesis. The thesis must involve substantial new research in community development. Procedures for the thesis option are the selection of a master's committee, the preparation and approval of a research prospectus, execution of the research, and the submission and approval of the thesis. An oral examination by the student's committee covering the thesis topic and the community development discipline completes the requirements for the degree.

The thesis option is initiated by filing a form in duplicate with the program office specifying the composition of the student's thesis committee and thesis topic. Four copies of the thesis are submitted to the program office upon completion: one for the program, one for the thesis committee chair, and 2 for the dean of the Graduate School.

Master's Project. The master's project is a community development project in which the student takes a major part in its conceptualization, design, and implementation. Procedures for the master's project are the selection of a committee, the submission and approval of a project prospectus, completion of the project, the preparation, submission, and approval of a final report, and the oral examination. Examples of a master's project are the development of a consumer cooperative, community health programs, economic development programs, completion of a community development project, and designing and implementing a training seminar or workshop.

Research Report. The research report demonstrates the student's research and professional capabilities. Procedures for the research report option are the selection of a committee, the preparation and approval of a research prospectus, execution of the research, and submission and approval of the research report. An oral examination of the research topic and on the community development discipline complete the requirements for the Master of Science degree.

The research report option is initiated by filing a form in duplicate with the program office, specifying the composition of the student's research committee and research topic. Three copies of the research report are submitted to the program office on completion: one for the program office, one for the committee chair, and a third for the dean of the Graduate School.

Several features distinguish the master's project from an internship. For the master's project, the student takes on the major initiative for developing the project, and prepares a formal prospectus describing it prior to inception. The project should have a definite structure with a beginning, middle, and end. While the internship stresses learning and growth, the master's project requires the demonstration of independence and professional competence in community development.

The master's project is initiated by filing a form in duplicate with the program office specifying the student's committee and the title of the master's project. Three copies of the final report are submitted to the program office upon completion: one for the program, one for the committee chair, and one for the dean of the Graduate School.

Extended Minor (14 or more credit hours). The extended minor consists of 5 hours of course work outside of community development courses in addition to the 9 hours of courses required for the minor. Since the student has 5 hours which are elective, as many as 19 hours may be accumulated for an extended minor.

In general, the courses selected for the extended minor should have a focus, and

the focus and its validity developed under the guidance of the extended minor committee.

Procedures for the extended minor option are the selection of an extended minor committee, the submission of a list of courses for the minor with a justification for their approval, satisfactory completion of course work, and the preparation and approval of a paper. An oral examination of the student covers general knowledge of community development and the extended minor field, and the relationship between the extended minor and community development.

The extended minor option is initiated by filing a form in duplicate with the program office specifying the student's extended minor committee and the minor field. Three copies of a paper must be filed at completion, one for community development, one for the committee chair, and one for the dean of the Graduate School. Students may not take courses for an extended minor until their committees have been formed and the option officially filed.

Oral Examination and Master's Degree Option Committee. Two faculty from community development, and a third member of the graduate faculty from another SIUC program constitute the oral examination and master's degree option committees. The committees are comprised of the same persons, and are selected by the student prior to filing the master's degree option form.

Specialized Areas of Emphasis

The student may select up to 19 hours of course work for a minor or area of emphasis, as part of the 44 units required for the Master of Science degree. The student's area of emphasis should be relevant to the master's option whether thesis, research report, master's project, or extended minor.

Six areas of emphasis (community research, education, training, planning, organizing, or administration) may be selected from courses and colleges throughout SIUC and from the community development program. Course lists for each of these emphasis areas, plus consultation, are available from faculty advisers. Students may also design their own areas of emphasis with the consent of their faculty advisers.

Community Organization. Community organizing is one of the fundamental skills of community development. There is a traditional and continuing concern for widespread participation and citizen representation in development programs. The vocation of community development includes employment as organizers for community action groups, cooperatives, tenant unions, neighborhood associations, consumer lobby groups, and minority rights organizations.

Community Education. The role of community development specialists in community education is essentially that of inter-communicator. These specialists require a fundamental understanding of the art and science of teaching, as well as exposure to a variety of education philosophies and practices. The community education specialist coordinates educational activities for groups and individuals with unmet educational needs.

Several minors are available within the broader area of community education such as: rehabilitation education, consumer education, health education, education in the arts and humanities, sex education, special education, and Afro-American or Black studies education.

Social Planning. The purpose of the planning concentration is to provide the techniques and knowledge to students who wish to work as planners or citizen participation specialists for city and regional planning departments, state agencies, and private international development organizations.

The relation of planning to community development is that of providing spe-

cialists who can systematically study problem areas and potential resources, propose programmatic solutions, and appraise the likely consequences of planned and unplanned change. Community planning places emphasis on involving citizens in the planning process in order to more fully reflect the diverse needs and values found in many towns and cities.

Community Relations Training. The community relations training concentration is designed to provide skills and knowledge to students who wish to practice various types of human relations training such as T-groups, leadership training groups, sensitivity groups, organizational development groups, consciousness-raising groups, and the like.

The relation of training to community development is to provide specialists skilled in encouraging cooperative, creative human communication in small group settings, and to provide trainees for the development of community leadership.

From a vocational standpoint, this type of training may be practiced as a human relations trainer (for which certification is provided by National Training Laboratories), a group welfare worker, a counselor, or an organization training officer. Such training is not intended to include the offering of therapy as practiced by clinical counselors, psychologists, or psychiatrists.

Community Development Administration. The administration emphasis is intended for those interested in public administration and management at any level, federal, state, or city, as well as for those who wish to be involved in the development and management of community owned business enterprises, community development corporations, cooperatives, etc.

Courses are available which provide skills needed for program planning, development, and evaluation within public and private organizations.

Community Development Research. The research emphasis provides students with basic proficiency in applied methods of research in order to describe community populations, assess community needs and problems, and evaluate programs designed to solve community problems. Typical employment opportunities related to this specialization include grant proposal writing, demographic data collection and analysis for planning agencies, and action and evaluation research duties in program development with public and private organizations.

THE COMMUNITY DEVELOPMENT DISCIPLINE

The emergence of community development, as a practice and a discipline, is a post-World War II phenomenon which has its origins in the relief, rehabilitation, and reconstruction efforts of governmental and private agencies in Europe, Africa, and Asia. In this country, early beginnings of the discipline were reflected in agricultural and cooperative extension work, adult education, rural sociology, and social work with a largely rural focus. In the 1970's the U.S. Foreign Service programs (such as USAID and the Peace Corps) had strong community developmental emphasis. National programs like the War on Poverty (OEO) and the Great Society (Housing and Urban Development) began to focus on urban areas, while local, county, state, and national governments developed community development departments as problem-solving, need-assessment, and evaluation units. The recently independent nations of Africa and Asia have used community development as the primary method of nation-building in the post-colonial period, with both urban and rural emphasis. Today community development is a discipline and a practice that applies the theory and methods of social science to the solution of human problems at the community level.

Community Development Services at SIUC

The Community Development Services at SIUC was established in 1953 as a component of area services. SIUC was then becoming a comprehensive university with a broad mission of teaching, research, and service, especially to the surrounding area. The earliest efforts of the Community Development Services staff were devoted to mobilizing the energies and resources of the citizens of the rural Southern Illinois areas.

During the first 10 years, Community Development Services was involved in every sizeable community in Southern Illinois and included comprehensive study and action programs in communities from East St. Louis to Cairo. Service continued to be its major activity until 1974, but as new region-wide planning and service agencies emerged in the early 1960's, the need for trained community development professionals became increasingly apparent. Consequently, a Community Development Institute was authorized in 1962 to offer a Master of Science degree program in community development. The program was fully operational by the fall of 1966, with a contingent of 10 new students.

A research unit was added to the institute and service operation in 1965. The program was redesignated as an academic unit within the College of Human Resources in 1973. Community development is now a program unit in the Division of Social and Community Services of the college.

Approximately 200 students have graduated from the master's degree program in community development, the oldest in the U.S. It is professionally staffed by 6 full-time faculty members and several graduate assistants. The staff maintain close working relationships with a variety of communities and planning, service, and development agencies, in which most students complete their field internships. Areas of emphasis within the program are community development administration, community education, international community organization, social planning, community research, and community relations training and development.

Financial Assistance

A limited number of graduate assistantships is awarded each semester on the basis of performance in the program and need. Fellowships for outstanding graduate students are awarded each year by the SIUC Graduate School. Student work and other financial aid opportunities are coordinated through the Financial Aid office.

Part-time Students

It is possible to enter the community development program while in full-time employment. Core courses are offered in the evening on a regular basis. Students seeking advisement on part-time study should contact the department.

Computer Science

The Department of Computer Science offers a graduate program leading to the Master of Science degree with a major in computer science. Application forms for admission to the Graduate School may be obtained from the department.

Admission and Retention

Decisions concerning the admission of students to, and retention of students in, the graduate program will be made by the department faculty subject to the requirements of the Graduate School.

The evaluation of applicants for admission is based primarily on the student's academic record with particular attention being given to past performance in

relevant undergraduate course work. Applicants are expected to have a substantial background in undergraduate computer science courses covering high level and assembly language programming, data structures, computer organization, logic design as well as discrete mathematics, calculus, and linear algebra. In most cases, it would be expected that the applicant has completed course work in the above subject areas prior to admission.

General Requirements. A minimum of 30 hours of graduate credit must be completed of which at least 15 has to be at the 500 level. More specifically, every candidate for the Master of Science degree in computer science must take:

1. CS 411 and CS 451
2. one approved graduate level mathematics course
3. four 500 level computer science lecture courses.

In addition, the courses taken must include one from each of the three categories: computer systems/architecture, information systems/software, and theory. The department maintains a current listing of all the courses in these categories as well as a listing of approved mathematics courses. Graduate students are also expected to attend, on a regular basis, the colloquia sponsored by the department.

Research Requirements. Students are required to write a research paper or thesis carrying credit under CS 592 or CS 599 respectively. The option chosen requires departmental approval. In the research paper option a maximum of 3 credit hours from courses CS 590, CS 592, CS 599 may count towards the 30 credit hours.

After completion of all work, the student will be given a final oral examination over the thesis or research paper and other course work.

Curriculum and Instruction

The Department of Curriculum and Instruction offers graduate programs leading to the Master of Science in Education, the Specialist, and the Doctor of Philosophy in education degrees. Within the programs, the student may select a specialty area from one of the following: curriculum and instruction, computer-based education, early childhood, educational technology, elementary education, gifted and talented education, instructional development, mathematics education, reading and language studies, school library media, science and environmental education, secondary education, social studies education, and teacher education and supervision.

Admission

The applicant must complete the applications for admission to both the Graduate School and the department. General requirements for admission to graduate programs are described in Chapter 1 of this catalog. A selection and review committee screens the applicant on the basis of prior undergraduate and graduate work, grade point average, standardized test scores, work experience, and letters of recommendation, if needed. The committee may possibly recommend admission for a student with some deficiency if, in its opinion, the student shows unusual professional promise.

Application materials may be obtained by addressing a request to: Coordinator of Graduate Studies, Department of Curriculum and Instruction, Southern Illinois University at Carbondale, Carbondale, IL 62901. Specific information may be obtained by calling (618) 536-2441.

Master's Degree

The Master of Science in Education degree in curriculum and instruction requires the completion of a minimum of 32 semester hours of course work. At least 15 of

the 32 semester hours must be at the 500 level and taken at SIUC. The student must also meet curriculum and instruction core course requirements, research requirements, and specialty area requirements. No more than 11 semester hours of credit earned at another college or university may be accepted toward this degree.

Each candidate's program is planned in consultation with a faculty adviser from the specialty area selected by the student, with consideration for the student's interests, experience, and specialty area. Unclassified graduate students should consult with the department chair for information and advice.

A student desiring teacher certification (preschool, elementary, secondary, or K-12) must be admitted to the Teacher Education Program and must follow the teacher certification entitlement process established by SIUC in conjunction with the Illinois State Board of Education.

The school library media specialist area of study offers courses which meet the requirements for the Standard Special Certificate in all areas of media, which is issued by the Illinois State Board of Education. Persons holding a valid teaching certificate may qualify as a school media professional by completing the following courses: C&I 438, 439, 440, 442, and 435 or 445. Other courses in the utilization and administration of teaching materials are designed to prepare both audiovisual coordinators and librarians to become fully qualified media specialists who can administer all teaching materials.

Program Requirements. The Master of Science in Education degree in curriculum and instruction requires a 9 semester hour professional core, specialty area courses, and research. This professional core is as follows: C&I 503, Introduction to Curriculum; C&I 504, Systematic Approaches to Instruction; and C&I 500, Research Methods in Education. The specialty area courses consist of either 23 semester hours plus a research paper or project, or 17-20 semester hours plus a thesis (3 to 6 semester hours). The minimum number of required semester hours is 32.

Each student demonstrates research skill by preparing a research paper, a project, or a thesis. If the student chooses to satisfy the research requirement with a thesis or research paper, then the adviser becomes a part of a committee of no fewer than 3 persons selected by the student and the adviser. The adviser (chair) and at least one other person must be members of the faculty of the student's specialty area. The purpose of this committee is to assist with and approve the research requirement and to prepare and conduct the final comprehensive examination.

The student choosing to satisfy the research requirement by preparing a research paper completes the research paper under the supervision of the adviser, or the adviser may constitute a 3 person committee which supervises the completion of the paper. The adviser will attest to the successful completion of the paper and report to the coordinator of graduate studies that graduation requirements have been satisfactorily completed.

Each student in the M.S. Ed. degree program must complete a final comprehensive examination. This examination may be either written or oral, or both. The specialty area faculty will form a committee of no fewer than 3 persons to prepare and evaluate the final comprehensive examination. The student may take the final comprehensive examination no more than 3 times.

If the student chooses to satisfy the research requirement by preparing a research paper, a coordinating committee of 3 persons representing the student's specialty area will prepare and evaluate the written comprehensive examination. A student selecting the research paper option must notify the coordinator of graduate studies and the specialty area coordinator at least 2 weeks prior to the date scheduled by the department for the written comprehensive examination. The written examination will be administered on the first Saturday in October, the first Saturday in March, and on Thursday of the third week of the summer session.

If the student chooses to satisfy the research requirement by preparing a thesis or project the student will take a final oral comprehensive exam. The final oral comprehensive examination is a defense of the thesis or project and must be scheduled with the chair of the student's committee at least 2 weeks prior to the date desired for that examination.

Specialist Degree in Curriculum and Instruction

The Department of Curriculum and Instruction offers the Specialist degree in curriculum and instruction. This degree program is designed for teachers and other personnel who seek to improve their performance in specialized areas. The Specialist degree program is intended for those preparing for positions which call for a higher level of study than the master's degree but without the emphasis on depth of research required for the doctorate. A major goal of this program is to strengthen an individual's area of specialization by providing the student with a program of greater depth and breadth than is possible at the master's degree level. The Specialist degree program is designed to meet the student's professional goals.

Admission. Applicants for admission to the Specialist degree program must meet minimum Graduate School standards for admission to and retention in the Specialist degree program. No more than 6 semester hours earned at another college or university may be accepted toward requirements for the Specialist degree. At the time of acceptance into the program, an advisory committee of 3 professors will be appointed to design the program cooperatively with the student, supervise the field study, and administer a comprehensive oral examination. At least 1 member of this committee, the student's adviser, will be from the student's area of specialty.

Program of Studies. A minimum of 30 semester hours' credit beyond a master's degree, including field work, is required for completion of the program. At least 15 semester hours must be at the 500 level. The Specialist degree in curriculum and instruction has a 12 semester hour core requirement; 14 to 17 semester hours of specialization; and 2 to 6 semester hours of independent investigation/research, for a total of 30 semester hours. The speciality area semester hours are determined by the student and the advisory committee. The professional core of courses is as follows: C&I 583, Instructional Theory, Principles, and Practices; C&I 584, Curriculum Theory, Foundations, and Principles; C&I 554, Integration of Educational Media; and C&I 585B, Supervision for Instructional Improvement.

Ph.D. Degree in Curriculum and Instruction

The Ph.D. degree in education with a concentration in curriculum and instruction is designed for teachers and other educational personnel who seek to improve their performance in general and specialized areas in either the public schools or the private sector. This program is designed for students who desire positions requiring advanced preparation at the highest level with emphasis on theories of curriculum and instruction and in-depth preparation in research. For example, this program is oriented toward students who aspire to positions with institutions of higher education, state departments of education in the United States, ministries of education in foreign countries, educational sections of human service agencies, business and industry, and public schools.

Admission. In addition to the application for admission to the Graduate School, the applicant must also complete the departmental application for admission to the concentration and the related specialty area. A selection and review committee screens the applicant on the basis of prior graduate work, grade point average, standardized test scores (Miller Analogies Test or Graduate Record Examination), work experience, and letters of recommendation. The TOEFL score is required for foreign students. The selection committee recommends admission of the student

only if the specialty area has an appropriate sponsor for the applicant and if a faculty member who is qualified to direct dissertations agrees to serve as chair of the student's doctoral committee.

The admissions committee may possibly recommend a student for admission who shows some deviation from departmental standards if, in the committee's opinion, the student shows unusual professional promise.

Retention. Any prospective doctoral candidate with a grade point average of less than 3.25 and 20 semester hours of doctoral work will not be allowed to continue in the program and will not be readmitted at a later date. Students must accumulate an overall grade point average of 3.50 for all doctoral work to qualify to take the preliminary examination.

Prior to the completion of 30 semester hours of course work, students meet with their major professors to determine whether or not to continue as doctoral students. Such matters as grade point average, progress in the program, course completion, motivation, and general academic scholarship skills in writing and research is considered. A report is then made to the doctoral committee and the departmental chair.

Program Requirements. The concentration in curriculum and instruction has both College of Education and C&I requirements. A minimum of 64 semester hours beyond the master's degree is required. The College of Education professional core of 8 semester hours consists of EDUC 590, Doctoral Seminar in Cultural Foundations of Education and EDUC 591, Doctoral Seminar in Behavioral Foundations of Education.

The C&I requirements include a core of 9 semester hours; at least 23 semester hours in the selected specialty area; research tools usually totaling 8 semester hours or the equivalent (hours for research tools are not counted in the total of 64 semester hours); and a minimum of 24 semester hours of dissertation. An internship of 2 to 8 semester hours is highly recommended. Courses comprising specialty area hours other than the core courses are determined by the student and the doctoral committee. The professional core of courses in the curriculum and instruction concentration is as follows: C&I 583, Instructional Theory, Principles, and Practices; C&I 584, Curriculum Theory, Foundations, and Principles; and C&I 582, Advanced Research Methods in Education.

Research Requirements. Research tools are selected on the basis of their appropriateness for the area of concentration, specialization, and type of dissertation research. At least one research tool, as outlined by the College of Education is selected by the doctoral committee in cooperation with the graduate student. The 8 options available are: quantitative methods, historical methods, foreign language methods, philosophical methods, qualitative methods, symbolic methods, and evaluative methods.

Preliminary Examination. The preparation and direction of the preliminary examination are the responsibility of the specialty faculty and the student's doctoral committee. Concepts related to curriculum, instruction, and research/evaluation will be integrated into the preliminary examination. Additional oral and written examinations may be required by the student's doctoral committee.

The examination will be offered 3 times a year: Wednesday, Thursday, and Friday of the fifth week of each term. A student may take the examination no more than 3 times.

Prospectus, Dissertation, and Final Oral Examination. Students may not register for dissertation hours until they have passed the preliminary examination. Having been admitted to candidacy, students submit prospectuses to their

doctoral committees for approval. The dissertation must show high attainment in an independent original, scholarly, and creative effort. A student's dissertation will be circulated to members of the doctoral committee at least 3 weeks in advance of proposed defense.

The Department of Curriculum and Instruction requires an oral examination conducted by the doctoral committee. Oral examinations are open to all interested observers. Notice of the time and place of the examination and the abstract of the dissertation are circulated throughout the department and the University.

Economics

The Department of Economics offers graduate programs that lead to both master's and doctoral degrees in economics. In order to provide students with the broadest types of experiences both programs combine a central core of economic theory and applied econometrics with offerings that emphasize both the applied and theoretical aspects of 10 different fields of specialization. In addition to their breadth, both the master's and doctoral programs also require varying degrees of specialization so that all students have at least one area of expertise. The 12 month master's program prepares a student for either the doctoral program or a terminal degree that is sought by both private industry and government. After completing this program a student wishing to continue graduate education takes an additional 1 to 2 years of course work and doctoral exams and usually spends 1 more year writing a doctoral dissertation (i.e., 2 to 3 additional years past the master's degree).

Admission

The overall scholastic record and potential of the applicant for admission is more important than prior preparation in specific areas of economics. While undergraduate specialization in economics is desirable, the program is open to students whose undergraduate specialization has been in other fields. However, if the student has not had intermediate level microeconomics, macroeconomics, and statistics, remedial work may be required before admission to the department. Calculus is also required and used extensively.

Separate application forms must be submitted to the Department of Economics and to the Graduate School. Application materials may be obtained from: Director of Graduate Studies, Department of Economics, Southern Illinois University at Carbondale, Carbondale, IL 62901.

All applicants are required to take the aptitude portion of the Graduate Record Examination. Information on testing dates and places may be obtained by writing to Educational Testing Service, Princeton, NJ 08540. Scores should be sent to Southern Illinois University at Carbondale marked Attention: Economics. All exam scores must be received before admission.

Evaluations of applicants by the departmental admissions committee are based on information from the application form, GRE scores, transcripts, and other information.

Applicants not admitted to the economics department who meet the Graduate School requirements may register for remedial courses as unclassified students. Such persons may be considered for admission to the Department of Economics at a later date, based on their performance in such remedial courses.

Finally, all foreign applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The Department of Economics requires that the applicant score 550 or above for admission to the graduate program. The TOEFL must be taken no more than 12 months prior to the date when admission is sought. For information concerning TOEFL testing dates and locations write to Educational Testing Service, Princeton, NJ 08540.

International students need not take the Graduate Record Examination prior

to admission if the director of graduate studies in economics deems that this would place an undue hardship upon the applicant. It is in the student's best interest to do so, however, since the Graduate Record Examination is required upon matriculation.

Entry into Ph.D. Program. There are 3 routes by which a student may enter the doctoral program. In the past, the standard method was through completion of the requirements for a master's degree and maintaining an average of at least 3.25 ($A = 4.0$). This is still an option. Now, however, there are 2 alternatives available, at least for some students.

Direct Entry. Direct baccalaureate degree entry into the program for the doctoral degree in economics is possible upon recommendation of the faculty. For direct entry, the student must meet Graduate School admission requirements and should have earned a grade point average of 3.0 or better ($A = 4.0$) on all undergraduate work, or have exhibited some other indication of the ability to do doctoral-level work in economics, such as GRE performance in the upper quartile. Application for direct baccalaureate degree entry should be made to the director of graduate studies in the Department of Economics.

Accelerated Entry. After at least one semester in residence, a student enrolled in the M.A. or M.S. degree program may petition the graduate studies committee for accelerated entry into the Ph.D. degree program. The essential requirement for accelerated entry is that a student must be already prepared to begin research at the doctoral level. There must be substantive evidence of research or creative activity already carried out by the student (e.g., papers, publications, performances, or other evidence as appropriate to the discipline). Furthermore, the student should have demonstrated the ability to communicate effectively the results of such activity. Additional evidence of a student's readiness to begin doctoral work includes undergraduate and graduate records, scores on exams such as the GRE, standardized tests, and reference letters. If admitted, the student will proceed toward the Ph.D. degree in accordance with the established rules of the department and the Graduate School.

Master's Degree

The master's degree prepares the student for teaching in junior college, or for positions in government or business.

The degree is awarded after the following requirements are fulfilled.

1. Pass courses in ECON 465, Mathematical Economics, ECON 540a, Microeconomic Theory, ECON 541a, Macroeconomic Theory, ECON 467, Mathematical Statistics in Economics, and ECON 565, Applied Econometric Analysis.
2. Pass two courses in a field of specialization in either economics or a field outside economics having a reasonable connection with economics, approved by the director of graduate studies.
3. Write a research report (3 credits) or master's thesis (6 credits).
4. Have earned 30 credits, at least 15 of which must be at the 500 level and at least 21 of which must be in economics.
5. Have earned a 3.00 GPA in 400 and 500 level economics courses excluding ECON 425, 436, 440, 441, 471, 501, 525, and 598.
6. Pass an oral examination.

The typical master's degree program will include: for the fall semester microeconomics (ECON 540a), econometrics (ECON 467), and a field elective; for the spring semester macroeconomics (ECON 541a), econometrics (ECON 565), and a field elective; and for summer a thesis or research paper and an elective.

Doctor of Philosophy Degree

The Ph.D. degree prepares the student for teaching and research positions in the

academic world, for positions as senior economist in private industry, for positions with private research or consulting organizations, or for government positions requiring advanced economic training.

The degree is awarded for high accomplishment as evidenced by the following steps.

1. Demonstrating proficiency in econometrics as a research tool through successful completion (minimum grade of *B*) of ECON 467 and ECON 567a,b.
2. Demonstrating proficiency in mathematics or in mathematical economics by successful completion of MATH 352 or ECON 511.
3. Pass Mathematical Economics I (ECON 465) and either History of Economic Thought (ECON 450) or The History of American Growth in the 20th Century (ECON 420).
4. Earn 24 credits after the master's degree or the equivalent.
5. Passing written qualifying examinations in macroeconomic and microeconomic theory after completion of appropriate course work for credit.
6. Passing examinations in 2 specialized areas of economics after completion of appropriate course work for credit and with the prior consent of the director of graduate studies.
7. Completion of a dissertation based on original research and successful defense of the dissertation before a faculty committee.
8. Take 24 credits of Dissertation (ECON 600).

The typical doctoral program for the first year will include: ECON 450, 467, and at least one mathematics tool course in the fall, ECON 540b, 541a, and 567a in the spring. The mathematics tool (MATH 352 or ECON 511) should be completed in the first year. The second year will include 540c, 541b, and 567b in the fall, and two field courses in the spring. In the third year, the fields will be completed in the fall and the student will work on a dissertation in the spring.

Approved Fields

The Department of Economics currently recognizes the following fields of specialization: economic development, international economics, monetary economics, advanced economic theory, econometric theory, public economics, resource economics, and labor economics.

The Doctoral Program in Education

One may pursue a program of study leading to the Doctor of Philosophy degree in education through any of 8 approved concentrations: curriculum and instruction, educational administration, educational psychology, health education, higher education, physical education, special education, and vocational education studies.

Students must satisfy the requirements of the Graduate School in addition to the College of Education requirements for the Doctor of Philosophy degree in education. General policies pertaining to the Doctor of Philosophy degree in education are enumerated in this section; policies specific to each concentration may be obtained from the appropriate departmental chair.

For program descriptions of Master of Science in Education and Specialist degrees, the student should review the material listed in this publication in the appropriate departmental section or consult the appropriate department.

Application

Applicants must submit the standard application materials to the Graduate School. Additional data may be requested by the faculty of the specific concentration. The student is encouraged to contact the appropriate departmental executive officer for specific guidelines.

Admission and Retention

The application materials of those who meet Graduate School requirements for admission to the Ph.D. program are forwarded to the College of Education. The department concerned reviews all documents relative to the student and makes a recommendation to the academic affairs committee of the College of Education; this committee makes the final admission recommendation through the dean of the College of Education to the Graduate School. Retention standards beyond minimum Graduate School standards are established by each concentration and are available from the departmental executive officer of the appropriate department.

Advisement

For each student a doctoral committee consisting of a minimum of 5 members is constituted and approved according to procedures described in the *Ph.D. Policies and Procedures Manual of the College of Education*. Copies of the manual can be obtained from the dean of the College of Education. The doctoral committee also serves as the student's dissertation committee.

The program, planned to include all graduate study beyond the master's degree, should be approved at a meeting of the student's committee. The program is then forwarded to the dean of the College of Education for final approval and filing.

Program Requirements

Each doctoral student in education must successfully complete a prescribed core of 8 semester hours in social and philosophical foundations of education (EDUC 590) and in psychological foundations of education (EDUC 591). For each concentration there are also basic courses which should be completed prior to the student taking the preliminary examination. Information about these specific courses can be obtained from the appropriate departmental executive officer.

Research Competencies. The Ph.D. degree in education is a research-oriented degree. As such, it consists of a program of studies and other appropriate experiences designed to facilitate the acquisition of knowledge, attitudes, and skills necessary to conduct systematic intellectual inquiry. This overall aim is accomplished via two major program components: (a) general research competencies, including an understanding of the fundamental nature of approaches to problem solution and an appreciation for the role of research in professional education, are developed through completion of a minimum of 32 semester hours of course work in any of 8 approved concentrations, and (b) specific technical and methodological competencies are developed through completion of individually prescribed research tools. Such tools are selected on the basis of their appropriateness for the area of concentration in which the student is working and their relevance to the student's research interests. Research tools are applied in the process of completing requirements for the doctoral dissertation. A list of approved research tools for the Ph.D. degree in education is available in the *Ph.D. Policies and Procedures Manual of the College of Education*.

Preliminary Examination. All students in the Ph.D. program in education must take the preliminary examination over areas determined by the student's doctoral committee. In addition, the examination may cover areas specific to a concentration. The examination is offered 3 times a year: Wednesday, Thursday, and Friday of the fifth week of each term.

A student may petition the doctoral committee for permission to take the preliminary examination after successful completion of the research requirement, successful completion of all or most of the course work, and successful completion of the doctoral seminar sequence in education. A student who fails the examina-

tion on the initial attempt may take the examination 2 additional times. If at that time the student has not passed the examination, the student is dropped from the program.

Admission to Candidacy. A student may be advanced to candidacy after the student has completed the 2 doctoral seminars, EDUC 590 and 591, fulfilled the residency requirements for the doctoral degree (see degree requirement in Chapter 1), met the research tool requirement, and passed the preliminary examination. The doctoral committee chair should initiate the admission to candidacy forms and forward the forms to the dean of the College of Education. Admission to candidacy is granted by the dean of the Graduate School upon the recommendation of the dean of the College of Education. The doctoral degree may not be conferred less than six months after admission to candidacy, except upon approval of the dean of the Graduate School.

Dissertation. The doctoral committee consists of a chair who is authorized to direct doctoral dissertations and at least 4 others who are authorized to serve on doctoral committees. The committee is appointed by the dean of the Graduate School upon the recommendation of the dean of the College of Education. At least one member of the committee must be from a department other than that of the student and at least one member from a unit outside the College of Education.

In choosing a topic for the dissertation, the candidate should prepare a prospectus for the dissertation and submit the prospectus to the doctoral committee for approval. After the doctoral committee approves the prospectus, the chair of the committee files one copy of the approved prospectus in the office of the dean of the College of Education.

Satisfactory completion of the dissertation requirement includes the passing of an oral examination covering the dissertation and related areas.

Educational Administration and Higher Education

The Department of Educational Administration and Higher Education offers an approved major in educational administration leading to the Master of Science in Education degree. It also administers the major in educational administration leading to the Specialist degree and provides courses and instructional personnel for doctoral students who wish to concentrate in educational administration at the doctoral level. All degrees are NCATE approved. Interested applicants should direct inquiries to the admissions clerk of the department.

Faculty from the Department of Educational Administration and Higher Education, in cooperation with faculty from other departments, offer courses in adult and community education. Inquiries about these courses should be directed to the chair of the department.

Master of Science in Education Degree

At the master's level, concentrations are offered in educational administration, instructional supervision, and adult education.

Educational Administration Concentration. Within the educational administration concentration, course work may be selected to meet Illinois State Board of Education certificated positions such as elementary principal, secondary principal, curriculum coordinator, school business manager, vocational-technical director, special education director, and for a variety of noncertificated positions in other educational institutions and settings. A minimum of 32 semester hours is required. Degree requirements and administrative certification requirements are not necessarily the same although programs may be planned to meet both degree

and certification requirements. Students must make application for the administrative certification program through the dean's office, College of Education.

Admission criteria include undergraduate grade point average, work experience, and letters of reference from persons knowledgeable of the candidate's ability to do graduate work.

The Master of Science in Education degree with a concentration in educational administration includes a basic core: administration, EAHE 501 and 503; research and tool subjects, EAHE 500, and EAHE 593; a foundations course (e.g., EAHE 430, 432, or 454); and a course in curriculum (e.g., EAHE 511, C&I 531, or C&I 571). Elective courses are determined by the student and the adviser. A research report and comprehensive oral examination are also required. It is recommended that applicants seeking administrative certification in the public schools have at least 2 years of successful teaching experience prior to or concurrent with the course work.

Instructional Supervision Concentration. Regulations for the concentration in instructional supervision parallel those for the concentration in educational administration. Students in this area normally elect specific courses in supervision and curriculum appropriate to their goals as supervisors, (e.g., elementary, secondary, or both). The department encourages a cross-departmental approach in the selection of appropriate courses for individual programs.

Adult Education Concentration. The master's degree in adult education is housed in the Department of Educational Administration and Higher Education. The purposes of the program are to provide those persons who already work in the field the opportunity to upgrade their current knowledge about adult education and to train persons new to the field for positions in higher education or other agencies that offer programming in the adult and continuing education field.

To meet these objectives, the program has two options: a specialization in higher education; and an option to prepare persons for agency employment.

The core categories of the program include: general adult education (EAHE 455, Introduction to Adult and Continuing Education); administration (courses vary by option), social and psychological foundations of adult education (EAHE 514, Foundations of Adult Education and EAHE 537, The Adult Learner); research and thesis (EAHE 500, Educational Research Methods and EAHE 593, Individual Research); internship (EAHE 595); and electives. Both options require 32 semester hours of credit.

Specialist Degree

The Specialist degree major, educational administration, is structured on a 30 semester hour sequence which requires: 6 semester hours in advanced administration seminars, EAHE 551 and 553; 4 semester hours in an administrative internship, EAHE 595; and 3 semester hours in independent investigation, EAHE 596; and additional elective courses, totaling a minimum of 17 semester hours. These elective courses are determined by the student and an advisory committee. A comprehensive oral examination and a field-based research study is also required. Options in educational administration and adult education are offered.

Although course work may be planned to meet both degree and Illinois State Board of Education certification requirements, degree requirements and administrative certification are not necessarily the same. For example, candidates seeking the Illinois Superintendency endorsement (level III) are required to have level I or level II administrative endorsement, and additional requirements, such as a minimum of 9 semester hours in foundations of education course work in their total graduate program, a field study, and 6 semester hours in interdisciplinary seminars, EAHE 559 and 561 or in cognate course work taken out of the college.

Admissions criteria include: (1) objective measures rated on a point scale

developed by the department, i.e., undergraduate and graduate grade point averages and the results from the Miller Analogies Test or the Graduate Record Examination and (2) subjective measures including letters of reference from persons knowledgeable of the candidate's ability to do advanced graduate work, and the appropriate work experience.

This program is based on the supposition that the applicant has a master's degree in educational administration or its equivalent. Students entering the program without this previous administrative training will be required to complete prerequisite work as determined by the student's committee.

Educational Administration Option. For the educational administration option, the specific course requirements are as follows: advanced administrative seminars, EAHE 551 and 553, Politics of Education and Systems and Accountability; EAHE 527, School Business Administration; EAHE 531, School Board and Policies; EAHE 595, Internships in Educational Administration; EAHE 596, Independent Investigation; and at least 11 hours of electives approved by the student's adviser.

Adult Education Option. For the adult education option, the specific course requirements are as follows: EAHE 475, Administration of Staff Development; EAHE 510, Foundations of Adult Education; EAHE 527, School Business Administration; advanced seminars, EAHE 551 and 553; EAHE 565, Continuing Education and Extension; EAHE 595, Internship in Educational Administration; EAHE 596, Independent Investigation; and 6 semester hours of electives approved by the student's adviser.

Doctor of Philosophy Degree in Education

The Department of Educational Administration and Higher Education participates in the doctoral program in education with an approved concentration in educational administration. See the description of the Ph.D. degree in education.

Inquiries regarding application to their programs should be directed to the admissions clerk of the Department of Educational Administration and Higher Education.

Educational Psychology

The Department of Educational Psychology offers graduate studies that lead to the Master of Science, the Specialist, and the Ph.D. in Education degrees. In addition, completion of course work and supervised experiences that meet standards for state entitlement and certification of school psychologists and counselors are a part of the degree programs. The purposes of these graduate programs are to prepare professional educational psychologists to engage in the practice of their specialization and to pursue research in their areas of interest. Programs are monitored to be in line with standards set forth by the American Association of Counseling and Development, National Association of School Psychologists, the American Psychological Association, the North Central Association, and the National Council for Accreditation of Teacher Education. The counselor education program is accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

Professional experiences and interests of students along with the teaching and research capabilities of the faculty serve as a basis for individualized courses of study. Sufficient latitude in program planning is provided so that students in concert with their adviser and their committee plan programs to capitalize on student interests and faculty capabilities. Human learning and cognition, affective behavior, development, instructional psychology, child and adult coun-

selling, marriage and family counseling, career development, measurement and statistics, psychological assessment, and research design represent professional and research specialties of the faculty.

Master of Science in Education

Academic experiences leading to the Master of Science degree are provided through concentrations in educational psychology and counselor education. Graduates from these programs are prepared to pursue advanced graduate studies and assume roles as professional counselors or educational psychologists in schools, colleges, and other agencies that serve the developmental needs of people.

Program requirements: core requirements consist of competencies in learning, quantitative methods, and development. Specific course selections to meet the core, transfer of credit, and the composition of the rest of the degree program are determined by the students and their advisers with the approval of the department chair.

Completion of a thesis, research paper, or project (1-6 hours) is required to meet the requirements of a master's degree in education. A thesis requires a research format that follows a formal method of inquiry to provide answers to questions of a basic nature to the field. Research papers or projects focus on specific information-gathering procedures or a product that meets a need for specific purposes.

An oral or written comprehensive examination covering course work, thesis, research paper, or project is required before students can be recommended for graduation. The faculty of each concentration determines the specific nature of the examination.

Admission and Retention. Students seeking admission to master's degree studies in the department must apply to and meet requirements for admission to the Graduate School and be approved by the Department of Educational Psychology. Scores from the Graduate Record Examination (GRE), an undergraduate grade point average of 2.7 (A = 4.0) for unconditional admission (students with an undergraduate grade point average of 2.4 may be considered for conditional admission); letters of recommendation, and evidence of successful experience or commitment to the profession are required. Each student application is considered on an individual basis. Professional qualifications, graduate courses taken, and student goals are also considered.

The adviser, along with the faculty of the concentration, is responsible for reviewing student progress each semester. Students are required to maintain a 3.0 grade point average and to be progressing toward their professional goals within the guidelines formulated in the advisement process. Failure to make progress or violations of department, college, or Graduate School regulations may result in dismissal from the program.

Specific information about programs and how to apply may be obtained by calling (618) 536-7763 or writing to the chair, Department of Educational Psychology, Southern Illinois University at Carbondale, Carbondale, IL 62901.

EDUCATIONAL PSYCHOLOGY

The master's degree concentration in educational psychology is a minimum 32-hour program. Students who wish to acquire fundamental knowledge and inquiry skills in human learning and research design are required to write a thesis (6 hours). Students who are more interested in applied positions or obtaining the foundation experiences upon which course work for counselors and school psychologists are based may elect the research paper or project option.

Graduates from this program have taken positions as teachers, researchers, and instructional designers and evaluators in the military, schools, industry, the military, colleges, and other institutions. Others have continued to pursue their

education at the Ph.D. level or integrate their experiences into the entitlement programs for certification in counseling or school psychology.

COUNSELOR EDUCATION

Students who complete this program also fulfill the requirements of the entitlement program for certification in Illinois. This is a minimum 48-hour CACREP approved program that prepares students to work with children and adults in elementary and secondary schools, higher education, mental health settings, and other agencies or settings. Emphasis is placed on child, adolescent, adult, and marriage counseling. Programs that focus primarily on handicapped or abnormal populations are centered in other departments in the University.

Students who first pursue the program in educational psychology as a preparation for counseling certification should indicate this intent at the beginning of their program. In this manner, experiences can be planned to better meet the needs of the student.

SPECIALIST DEGREE

The Specialist degree is awarded to students who complete successfully a year of sequenced experiences (minimum of 30 semester hours) beyond the master's degree. School psychologists and counselors are served by this degree program. It is designed to be an interactive model of education and training involving local school districts, the Illinois State Board of Education Office, the Department of Educational Psychology, and other appropriate sources.

School Psychologists. Students who complete a sequence of courses leading to the Specialist degree are eligible for certification as school psychologists. The program is based upon standards established by the National Association of School Psychologists and certification requirements set forth by most states.

Counselors. All programs are individually planned to meet the professional objectives of the student. Typically, students prepare themselves to be directors of programs and counselor supervisors.

Admission and Retention. Persons may seek admission to the Specialist degree program either at completion of the undergraduate or master's degree. Applicants may have varied undergraduate majors. However, they are expected to have some course background in psychology and other related fields. They must have successfully completed at least 1 course in each of the following 3 areas: personality theories, psychological measurement, and child development. A minimal undergraduate grade point average of 2.7 ($A = 4.0$) is required for unconditional admission to the program. The appropriate faculty will review applications to determine acceptable course work consistent with the applicant's preparation, career aspirations, and the requirements of the program.

Since only a limited number of students can be accommodated by the program, applications should be received by March 1 for consideration for admission during the following academic year. Applications received after this deadline can be considered only if space is available.

The coordinator of the respective entitlement programs is responsible for initiating a review of each student's progress in the program each semester. Students who are not progressing satisfactorily or who are in violation of department, college, or Graduate School regulations may be dropped from the program.

Doctor of Philosophy Degree in Education

Advanced studies leading to a Ph.D. degree are offered by the Department of

Educational Psychology. Individualized programs of sequential studies, based on a general core of foundation knowledges, are required for each candidate. Students along with their doctoral committee plan programs related to student background and interests, the professional requirements of the program, and the professional competencies of the faculty.

Faculty in the department provide research and professional competencies in counseling, psychological appraisal, instructional psychology, school psychology, and measurement and statistics.

Application. Students must apply to the chair, Department of Educational Psychology, Southern Illinois University at Carbondale, Carbondale, IL 62901-4618, (618) 536-7763. Specific questions about programs and how to apply should be directed to the Department of Educational Psychology at the address identified above or by phone.

Admission and Retention. Applications are reviewed by the department faculty and recommendations forwarded to the College of Education and the Graduate School. Test scores from the Graduate Record Examination are required. A personal interview with a candidate may be required.

The performance of each doctoral candidate is reviewed each semester. Maintenance of 3.0 grade point average and compliance with policies of the department, the college, and Graduate School are also required.

Core Requirements. Students are required to meet core competence in learning, measurement, statistics, research methodology, and affective behavior. Specific courses or other means used to satisfy these areas are determined by the department upon recommendation from the student's doctoral committee. Students are expected to bring to the doctoral program a background of course work and experiences commensurate with a master's degree in educational psychology that includes foundations in psychology, education, and other related areas.

Research, Teaching, and Practicum Experience. Each student is required to demonstrate professional competence through supervised experiences. These experiences include research, teaching, and personal interactions in consulting, psychometric, or counseling situations. It is recommended that doctoral students take an approved internship in their area of professional specialization. Such internships are usually of a year's duration and must be approved by the department.

Preliminary Examinations. All Ph.D. candidates must complete a preliminary examination over their doctoral course work before formal admission to candidacy. The doctoral committee with the concurrence of the department is responsible for the development and evaluation of the preliminary examination.

Doctoral Committees. Students are assigned a doctoral adviser upon admission to the program. Before the end of the first year of doctoral study a doctoral committee is constituted. At this time a new chair may be chosen to head the committee which assists and evaluates students in their program. The committee is also responsible for an oral examination over the completed dissertation and student's general knowledge of the professional field.

Engineering

The College of Engineering and Technology teaching and research programs are supported by appropriate courses, equipment, and facilities in a modern building assigned to the college. In addition, research opportunities and funding are

provided through the Coal Research Center, the Materials Technology Center, and the Office of Research, Development, and Administration. Also the college operates the College of Engineering and Technology Applied Research Center (CETARC). Large sponsoring agencies such as major corporations or technical associations may ask the college to conduct research of a basic nature in order that they may devote their own laboratories to work of a developmental character. Small organizations may call on the college for more direct help in the solution of specific problems. Graduate programs leading to the Master of Science degree with a major in engineering and the Doctor of Philosophy degree in engineering science are available in the College of Engineering and Technology.

Master of Science in Engineering

The Master of Science degree with a major in engineering is available for 3 concentrations in the 3 engineering Departments of Civil Engineering and Mechanics, Electrical Engineering, and Mechanical Engineering and Energy Processes. Course offerings and research activities within the departments include the following.

CIVIL ENGINEERING AND MECHANICS CONCENTRATION

Topics included are: numerical fluid and solid mechanics, mechanics of composite materials, continuum mechanics, experimental stress analysis, biomechanics, stability, photoelasticity, water quality control, hazardous waste treatment and disposal, hydraulic design, viscous and inviscid flow, wave motion, turbulence, structural analysis, and structural design.

ELECTRICAL ENGINEERING CONCENTRATION

Topics included are: circuits theory, electronics, solid state devices and materials, digital systems, energy sources and conversion, computers and automation, bioengineering, systems analysis and design, automatic controls, communication theory, instrumentation, and electromagnetics, and quantum electronics.

MECHANICAL ENGINEERING AND ENERGY PROCESSES CONCENTRATION

Topics included are: air pollution control, mass and heat transfer, coal conversion, electrochemical desulfurization, thermal science, thermal systems design, solar systems design, chemical and biochemical processes, mechanical systems, computer-aided design, materials science, and catalysis.

Master of Science in Mining Engineering

Topics included are: rock mechanics and ground control, finite element analysis of mining structures, experimental rock mechanics, mine subsidence, coal processing, computer simulation of coal processing plants, surface and underground mining systems performance optimization, evaluation of innovative mining systems, mineral economics and operations research, surface mine reclamation.

Admission

Students seeking admission to the graduate program in the College of Engineering and Technology must meet the admission standards set by the Graduate School and the department they wish to enter. Some departments require a bachelor's degree in engineering or its equivalent for admission into the program whereas others require a bachelor's degree with a major in engineering, mathematics, physical science, or life science with competence in mathematics. A student whose undergraduate training is deficient may be required by the department to take course work without graduate credit.

Requirements

A graduate student in engineering is required to develop a program of study with

a graduate adviser and establish a graduate committee of at least 3 members at the earliest possible date. Each student is required to concentrate in one of the branches of engineering, and with the approval of the graduate committee, may also take courses in other branches of engineering or in areas of science and business, such as physics, geology, chemistry, mathematics, life science, administrative sciences, or computer science.

For a student who wishes to complete the requirements of the master's degree with a thesis, a minimum of 30 semester hours of acceptable graduate credit is required. Of this total, 18 semester hours must be earned within the major department. Each candidate is also required to pass a comprehensive examination covering all of the student's graduate work including thesis.

If a student prefers the non-thesis option, a minimum of 36 semester hours of acceptable graduate credit is required. The student is expected to take at least 21 semester hours within the major department including no more than 3 semester hours of the appropriate Engineering 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination.

Each student will select a minimum of 3 engineering graduate faculty members to serve as a graduate committee, subject to approval of the chair of the department administering the concentration. The committee must consist of at least 1 member from 1 of the other 3 engineering departments and will:

1. approve the student's program of study,
2. approve the student's research paper topic,
3. approve the completed research paper, and
4. administer and approve the written comprehensive examination.

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the College of Engineering and Technology or any one of the 4 engineering departments.

Doctor of Philosophy in Engineering Science

The Doctor of Philosophy degree in engineering science is available for 3 concentrations in 4 engineering departments. The areas of concentration are as follows.

AREAS OF CONCENTRATION

Mechanics (Solids, Fluids, and Materials). This area provides students with in-depth knowledge in solid mechanics, fluid mechanics, structures, experimental stress analysis, soil and rock mechanics, mine ground control, and materials science. A student may select course work from over 75 semester hours of existing 500-level engineering courses. Additional relevant courses may be taken in physics, mathematics, and geology. Research thrusts include finite element analysis of structures, water jet cutting of materials, mechanical characterization of composite materials and rocks, solid-liquid separation mechanics, field geotechnical studies in underground mines and tunnels, surface and sub-surface effects of mining, metallic glasses, surface and interface phenomena.

Fossil Energy (Mining, Coal Conversion, Coal Utilization, and Pollution Control). A student with interests in fossil fuel extraction and utilization and associated environmental problems may specialize in this area. Typical course work includes mining, processing, combustion, and conversion of fossil fuels as well as environmental problems abatement associated with fossil fuels. Over 45 semester hours of engineering course work at the 500-level are currently available. Other relevant courses in this area may be taken in physics, chemistry, and geology. Current areas of research include desulfurization of coal using a multitude of physical and chemical processes, recovery of coal from waste materials, surface-mined land reclamation, systems simulation of coal mining,

coal conversion, and fluidized bed combustion. A new area of abatement of environmental pollution emanating from these processes has also been developed.

Electrical Systems (Electromagnetics, Properties, and Instrumentation). A student interested in advanced study in this area of concentration may select from the following areas: control and system theory, instrumentation, and digital systems, solid state devices, and electromagnetics. Approximately 28 semester hours of electrical engineering course work at the 500-level are currently available. An additional group of courses at the 500-level is available in the Departments of Computer Science, Mathematics, and Physics. Current research in this area includes electromagnetic properties of rock strata, lightning protection, equivalent circuits for lightning, microwave instrumentation, computer applications, fiber optics, control and network theory and systems.

ADMISSIONS AND RETENTION

Admission to the doctoral program requires a master's degree in engineering or its equivalent. Applicants for the doctoral degree must meet Graduate School admission requirements and be approved by the college graduate studies committee. In addition to the Graduate School and other college requirements, the committee ordinarily requires a grade point average of 3.5 (4 point scale) in graduate level work. Applicants are required to submit GRE scores in support of their application for admission. Except for persons from English-speaking countries, international students are required to have a TOEFL score of 600 or higher for admission.

Upon admission to the doctoral program, an interim graduate adviser will be assigned for each student by the college associate dean for graduate studies. This adviser will be responsible with the student for planning the course work portion of the program. The college graduate studies committee will be kept informed of the student's program of study.

Transfer credit will normally be given for some of the graduate level courses suitable to the program upon review by the college graduate studies committee. Proficiency examinations may be authorized by the committee for areas in which questions of transfer credit arise. No credits will be given for industrial experience.

Notwithstanding the number of credits transferred towards the Ph.D. program, every student must complete at least 18 credit hours of approved course work at SIUC prior to taking the candidacy examination.

Retention is governed by the rules of the Graduate School. Students should avoid the accumulation of incomplete grades. No student with more than 2 incomplete grades can be awarded a graduate assistant appointment, and a student holding a graduate assistant appointment is subject to having the appointment terminated upon acquiring 2 or more incomplete grades.

CURRICULUM

A minimum of 38 credit hours of course work and 24 credit hours of dissertation research is required. The course work must be completed in 2 areas: area of concentration and program core. A student must complete a minimum of 18 hours of course work relevant to an area of concentration. The course work in this area will consist of courses in engineering, mathematics, or science. A minimum of 12 hours of electives must be taken in 500-level courses. Of these, a minimum of 9 hours must be taken in 500-level courses in engineering science. The course work in the area of concentration is intended to provide depth in the student's area of research. The program core consists of 20 hours of course work in systems theory, design of engineering experiments, experimental data acquisition-theory and practice, advanced numerical methods in engineering, advanced engineering

analysis (I and II), and engineering science seminar. A dissertation must be completed in the student's area of research interest with the approval of the dissertation committee.

CANDIDACY

A Ph.D. student must satisfy all graduate school requirements. Acceptance to Ph.D. candidacy is contingent upon the successful completion of written examinations composed of questions that require substantive knowledge of experimental and theoretical topics in the program core and elective courses. However, questions are not limited to post M.S. course work. The examinations are designed to evaluate the breadth and depth of the student's education, to encourage the student to organize and integrate knowledge, and to demonstrate the student's competence. The examination in the program core area will be the same for all students taking the examination at any one time. The examination in the area of concentration will vary depending upon the student's area of research. Each student is expected to pass the candidacy examination the first time it is taken. If a student fails to pass any component of the candidacy examination, the college graduate studies committee and the student's candidacy committee will review the student's examination performance, academic progress, and potential for successful completion of the degree. The joint committee will decide which examinations the candidate must retake or it may decide to terminate the student's enrollment. In any event, the student will not be permitted to take the examination in any area more than twice.

DISSERTATION

A dissertation must be written under the direction or co-direction of an engineering faculty member and approved by dissertation committee consisting of a minimum of 5 members one of whom must be from outside the College of Engineering and Technology. The dissertation committee must be formed no later than immediately after successful completion of the candidacy examination. The members of this committee need not be the same as the members of the candidacy examination committee.

A dissertation research proposal must be approved by the dissertation committee. Candidates will be required to present an acceptable dissertation describing original research performed with minimal supervision. Dissertation approval is based on a successful oral defense of the dissertation research and approval of the dissertation. This requires approval of at least 80% of the dissertation committee.

GRADUATION

1. All requirements of the Graduate School must be met.
2. A minimum of 38 hours of course work beyond an M.S. degree in engineering, or its equivalent, must be completed with a minimum grade point average of 3.25.
3. An acceptable dissertation must be completed within 5 years after admission to candidacy or the student will be required to repeat the candidacy examinations.

English

The Department of English offers programs leading to the Master of Arts and the Doctor of Philosophy degrees with a major in English. Students enrolled in a program leading to the Master of Science in Education degree in secondary education or higher education may take courses in English to satisfy requirements

for the teaching specialty. Students enrolled in the Ph.D. degree in education program may take courses in English for the elective portion of the program when permitted by the specific department participating in the degree.

Admission

Students seeking admission to the graduate program in English must first be admitted by the Graduate School before they can be admitted to the Department of English.

Students seeking admission to the M.A. degree program are strongly advised to take the verbal and advanced section of the Graduate Record Examination. This is especially true for those students wishing to compete for fellowship support. Those seeking unconditional admission to the Doctor of Philosophy degree program must present a score of the 70th percentile or above in the advanced section of the Graduate Record Examination.

Information about admission and the necessary admission forms to the graduate programs in English may be obtained by calling (618-453-5321) or by writing: Director of Graduate Studies, Department of English, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Transfer Credit

Within limits imposed by the Graduate School, transfer credits will be accepted by the Department of English subject to the following restrictions.

The student must petition the director of graduate studies indicating the number and level of hours being submitted for credit, where and when the work was done, and which grade was received. As nearly as possible, the course to be transferred should be equated with a course offered by the SIUC Department of English. The student will then be assigned to the appropriate faculty member, who will examine the student over the material of the course and recommend whether the transfer credits should be accepted and whether the course satisfies the course distribution requirements of the department. The director of graduate studies will act on the recommendation and forward it to the proper authorities.

Retention

In the entire graduate program, the student may accumulate up to 3 hours of work below *B*, so long as a 3.0 M.A. or 3.25 Ph.D. average is maintained. If the student has accumulated more than 3 hours, but fewer than 10 hours, of grades below *B*, these must be replaced by an equal number of hours of *A* or *B* in addition to maintaining the required average. That is, the minimum number of semester hours of course work may be increased from 30 to a maximum of 36. A student who accumulates more than 9 hours of *C* will be dropped from the program.

A student who is granted a deferred or incomplete grade must complete the work by the end of the next term in residence. Exception to this rule will be made only in a very special case and must be made through petition to the graduate studies committee. A student who has accumulated more than 6 hours of such work will not be allowed to register for more course work until the total of deferred work is reduced to not more than 3 semester hours. Deferred or incomplete work will be regarded as finished when a student has submitted all examinations, papers, etc., to the instructor. Deferred or incomplete grades in ENG 595, 600, and 601 are not included in the above regulations.

Course Work

Students may offer work from outside the department (in a single field or in two or more related fields) toward either the Master of Arts or the Ph.D. degree provided that the work does not interfere with regular requirements of the Department of English and has relevance to their program.

Master of Arts Degree

The Master of Arts degree major in English requires satisfactory completion of 30 semester hours, of which 15 must be earned in 500-level courses. M.A. students may elect to focus their study either on a literature concentration or on the study of literature combined with a concentration in composition.

LITERATURE CONCENTRATION

The literature concentration requires students to take the following courses:

ENG 502-3 Introduction to Graduate Study and Teaching College Composition

ENG 403-3 History of the English Language or

ENG 401-3 Modern English Grammar

Electives covering the historical literary periods: 6 English or American literary period courses for 18 hours credit—three from Group I and three from Group II:

Group I: a. Anglo-Saxon and Medieval English literature. b. Renaissance and 17th century English literature. c. Restoration and 18th century English literature. d. 19th century English literature.

Group II: a. American literature before 1885. b. American literature since 1885. c. Modern British literature. d. Modern Continental literature.

Additional Electives. The student may use the remaining 9 hours of the 30 hours of graduate work required for the M.A. with literature concentration degree as follows: a. 9 hours of graduate level credit courses in the Department of English, or b. a 9 hour area of emphasis in a special field: in the Department of English (such as creative writing, criticism, etc.); or interdisciplinary study outside the department (in such areas as linguistics, foreign language, journalism, philosophy, history, etc.). With the approval of the director of graduate studies, such study will be entered as a special minor on the student's record. A *B* in all courses is necessary to qualify course work as an area of concentration. Some graduate students may need more than the minimal 30 hours of credit for the master's degree if they wish to offer an area of concentration.

COMPOSITION CONCENTRATION

The composition concentration requires students to take 18 semester hours in the composition segment and 12 semester hours in the literature segment as listed below.

Required Courses.

ENG 401-3 Modern English Grammars

ENG 501-3 Research in Composition

ENG 581-3 to 9 Problems in Teaching English

ENG 502-3 Introduction to Graduate Study and Teaching College Composition

Electives. Composition segment: one course must be selected from each of the two areas.

Writing

ENG 490-3 Expository Writing

ENG 491-3 Technical Writing

Language and Rhetoric

ENG 403-3 History of the English Language

ENG 596-3 to 12 Language Studies

SPCH 440-3 Language Behavior

Courses offered by departments other than English by permission of the director of graduate studies

Literature segment: 4 courses must be selected from 4 of the 5 areas: Medieval and

Renaissance literature, Restoration and 18th century literature, 19th century literature, modern British literature, American literature.

Other Requirements. In addition, students in both concentrations must complete the following requirements.

Satisfy a foreign language requirement by completing with an average of not less than *B* two years of college-level work in one foreign language or FL 488 a foreign language as a research tool course or the equivalent. Equivalent work will be judged on an ad-hoc basis by the director of graduate studies. Otherwise the requirement must be satisfied by passing the ETS examination.

Submit to the director of graduate studies 2 copies of a research paper which has been given a grade of not less than *B*. The research paper is to be typed according to Graduate School guidelines and the MLA Style Sheet. Students in the composition concentration must submit 2 copies of a research paper written for 1 of the courses in composition.

Students who have chosen the literature concentration must pass the master's comprehensive examination over 6 historical periods of literature. Students in the composition concentration must pass the master's comprehensive examination based on course work in both segments and a reading list.

Students who have opted to write a master's research project and who have received permission from the graduate studies committee to do so do not need to satisfy the last 2 requirements listed above. They will have to submit 2 copies of their completed research project to the director of graduate studies. The thesis must be typed to follow the Graduate School guidelines and MLA Style Sheet.

Doctor of Philosophy Degree

Students must apply formally for admission to the Doctor of Philosophy degree program, including students who have earned a master's degree at SIUC. Admission to the Ph.D. program is decided by the graduate studies committee, which makes its decision according to the following criteria:

1. An M.A. degree in English or its equivalent
2. Appropriate grade-point average (normally, a 3.25 is the acceptable minimum)
3. A satisfactory score on the GRE advanced literature examination (normally the 70th percentile will constitute an acceptable minimum score)

A full-time student holding a master's degree can complete the doctoral program in two years, though most prefer three. Students are considered Ph.D. candidates when they have (1) completed the prescribed course of study, (2) satisfied the research-tool requirements, (3) passed the preliminary examination, and (4) been recommended by the English graduate faculty. The Graduate School recognizes students as Ph.D. candidates after it receives notification that the students have passed the preliminary examinations. Students must be admitted to candidacy at least 6 months prior to the final examination on the dissertation.

Course of Study

There is no prescribed number of hours for the Ph.D. degree in English. Required courses are as follows:

1. If students have never had courses, graduate or undergraduate, in Chaucer, Shakespeare, and Milton, they are required to remedy this deficiency;
2. Students are required to have taken at least one graduate course in each of the 6 major fields (see M.A. course requirements) and ENG 401 and 403 or the equivalents;
3. In addition, courses may be prescribed by the students' advisory committee to insure that they will have a comprehensive knowledge of a major and 2 related minor areas;

4. Ph.D. students are normally required to complete for credit, with no grade lower than *B*, at least one 500-level course in each minor area of study.

Research Tool Requirements

A student may satisfy the research tool requirement by fulfilling 1 of the 3 options listed below. The choice of option and languages selected must be approved by the student's advisory committee.

1. A reading knowledge, demonstrated by examination, of 2 languages in addition to English. Each must be a language in which there is a substantial literature for research and which is germane to the student's field. Foreign students may specify their native language as one of the foreign languages, provided it is one which meets the above requirements. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.
2. A command of one foreign language and its literature demonstrated by examination or by at least 3 courses numbered 400 or above, or the equivalent, with an average grade not lower than 3.0. Satisfaction of this requirement normally requires the equivalent of 3 years of study at the college level with grades of *B* or better. Foreign students may use their native languages provided those languages are appropriate to the particular fields of major emphasis. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.
3. A reading knowledge of a single foreign language, demonstrated by examination, and a special research technique or collateral field of knowledge. A special research technique should represent the acquisition of any special skill that will effectively contribute to the research proficiency of the student (provided that such a skill is not an assumed or traditional part of the major). The collateral field of knowledge is expected to broaden the student's scholarly background by permitting exploration of knowledge in a field related to the major.

To satisfy the research technique or collateral field requirement the student may complete a total of 2 semester courses numbered 400 or above, with an average grade not lower than 3.0.

The department has expanded its Ph.D. program into interdisciplinary studies on a cooperative basis with departments that deal with one pertinent subject matter and which are interested in such interdisciplinary cooperation, e.g., the Departments of Philosophy, Foreign Languages and Literatures, History, Cinema and Photography, Speech, Theater, Sociology, etc. Permission for an interdisciplinary minor must be approved by the student's committee and the graduate studies committee.

Preliminary Examinations. Students on a fellowship or a graduate assistantship will be expected to take preliminary examinations no later than 2 or 3 years, respectively, after receipt of their M.A. degree.

Preliminary examinations covering 3 areas are prepared and graded by the student's advisory committee, and will cover 3 areas. A major area examination consists of one 6 hour written exam, the minor areas of two 3 hour written exams. Preliminary examinations will be scheduled only twice in a single term.

At the discretion of the committee, a 2 hour oral examination may follow the decision on the 3 written examinations.

English as a Foreign Language

(See Linguistics for program description.)

Foreign Languages and Literatures

The Department of Foreign Languages and Literatures offers graduate programs leading to the Master of Arts degree in foreign languages and literatures with concentrations in French, German, or Spanish. A student whose degree program makes provision for a graduate minor may follow a program of study leading to a minor in these same subjects as well as in Russian.

Students may complete requirements for a teaching specialty in French, German, Russian, or Spanish for the Master of Science in Education degree majoring in secondary education or in higher education.

Students seeking the Master of Arts degree will be governed by the policies of the Graduate School with respect to admission, minimum credit hours, scholastic attainment, residence, and maximum time limits for completion of the program.

Admission

In addition to meeting requirements of the Graduate School, the applicant for admission to the programs in the Department of Foreign Languages and Literatures should hold a bachelor's degree with a major or at least 18 semester hours (27 quarter hours) of courses on the junior-senior level in French, German, or Spanish. Students who meet requirements for admission to the Graduate School but do not meet departmental requirements may register as unclassified students for specific graduate courses in the department only with consent of the instructor and authorization from the head of their language section.

Requirements for Master of Arts

Students who have been admitted to graduate study will plan their course of study in periodic consultations with their graduate advisers. During such consultations, each student will decide upon either a thesis or a non-thesis (i.e., research paper) program. This program should be made before the end of the second semester of study. Students choosing to write a thesis will register for the thesis course (599), which provides from one to six semester hours of credit. Regardless of whether the thesis or non-thesis program is chosen, every candidate must pass a comprehensive written examination and a final oral examination at a time specified by the language section. For the student writing a thesis, this final oral examination is primarily a defense of the thesis.

A minimum of 30 semester hours are required, of which at least 15 must be in 500-level courses. All students must take FL 566-3, Bibliography and Research Techniques, which should be taken as early as possible during the course of studies; also required are the linguistics structure (411) or history (412) of the language concentration. FL 436-3, Methods in Teaching Foreign Language, is recommended for all teaching assistants and those who intend to make teaching their career. With approval of the adviser, graduate courses outside the language in which the degree is being taken may be counted towards the total unit requirement. Beyond such requirements as are specified for each language, students must demonstrate proficiency in a second foreign language by passing an exam in that language or by successfully completing approved course work in that language.

FRENCH

The program of study leading to the Master of Arts degree with a concentration in French is planned to give a balanced overview in the areas of French language, literature, and civilization, and to allow a high degree of flexibility in the elaboration of the student's total program in French. Required courses are: FL 566 Bibliography and Research Techniques

FR 411-3 Linguistic Structure of French

or

FR 412-4 History of the French Language

FR 470-3 Backgrounds of French Civilization

FR 510-3 Masterpieces of French Literature

FR 525-3 Advanced Language Skills.

The student will consult with the graduate adviser in determining a suitable program beyond those requirements.

Thesis or Research Paper (option 1 or 2 is required).

Option 1. If writing a thesis either (a) 6 hours of FR 599 or (b) 3 hours of FR 599 plus 3 hours of an elective French graduate course.

Option 2. If writing a research paper either (a) 4 hours of elective French graduate course work, plus 2 hours of FL 506 or (b) 6 hours of elective French graduate course work.

GERMAN

The program of study leading to a Master of Arts degree with a concentration in German is planned to emphasize either German language and linguistics or German literature; a minor must be completed in the other of these two fields. Although GER 411, Linguistic Structure of German is not required, it is strongly recommended for prospective teachers of German. Required courses are:

FL 566-3 Bibliography and Research Techniques

GER 411-3 Linguistic Structure of German

GER 412-3 History of the German Language

One course in an older period of a Germanic language. (GER 510-3, Middle High German, is recommended, but an alternative course could be GER 512-3, Historical German Dialects.) The student will consult with the German adviser in determining a suitable program beyond these requirements.

Thesis or Research Paper (option 1 or 2 is required).

Option 1. If writing a thesis either (a) 6 hours of GER 599 or (b) 3 hours of GER 599 plus 3 hours of an elective German graduate course.

Option 2. If writing a research paper either (a) 4 hours of elective German graduate course work, plus 2 hours of FL 507 or (b) 6 hours of elective German graduate course work.

SPANISH

The program of study leading to the Master of Arts degree with a major in Spanish is designed to survey at least 2 of the following: Hispanic linguistics, Peninsular literature, and Spanish American literature. Requirements are:

FL566-3 Bibliography and Research Techniques

SPAN 411-3 Linguistic Structure of Spanish

or

SPAN 412-3 History of the Spanish Language

SPAN 410-3 Advanced Language Study.

The student will consult with the graduate adviser in determining a suitable program beyond those requirements.

Thesis or research paper (option 1 or 2 is required). *SPAN 599 or (b) Option 1:* If writing a thesis, either (a) 6 hours of 3 hours of SPAN 599 plus 3 hours of an elective Spanish graduate course. *Option 2:* If writing a research paper, either (a) 4 hours of elective Spanish graduate course work, plus 2 hours of FL 509 or (b) 6 hours of elective Spanish graduate course work.

Requirements for Master of Science in Education

The Master of Science in Education degree majoring in secondary education with a teaching emphasis in French, German, Russian, or Spanish requires a minimum of 30 hours, at least 13-17 semester hours in the subject matter area and 13-17 semester hours in secondary education. The Master of Science in Education degree major in higher education with a teaching emphasis in a foreign language requires at least 20 semester hours in the subject matter and 12 semester hours in higher education.

Further details as to specific requirements will be found in the respective program descriptions. For either degree, if the teaching emphasis is Russian, Russian 415 is required.

Forestry

The Department of Forestry offers advanced courses for the Master of Science degree with a major in forestry. In addition, curricula are available which permit graduate students with an interest in forestry to pursue their interest in Doctor of Philosophy degree programs in other departments.

Admission

In addition to requirements set forth by the Graduate School, the Department of Forestry requires the following:

1. A minimum grade point average of 2.7 is required for admission ($A = 4.0$). The department will permit conditional entry between the 2.5 and 2.7 grade point average level. A grade point average of 2.7 or higher is required for stipend eligibility when available.
2. The student is required to provide proof of proficiency in technical writing. Normally an expository essay is required to evaluate whether the student should have remedial grammar or writing courses.
3. Three letters of recommendation from former professors, employers, or other responsible individuals are required.
4. The aptitude test of the Graduate Record Examination is required of all applicants. This test may be taken during the first semester of residence.
5. Each applicant must complete the statement of interest form. This form indicates the student's area of interest in forestry and the faculty member with whom the student desires to study. All correspondence should be directed to the chair of the Department of Forestry.

Retention and Completion Requirements

Upon the graduate student's arrival on campus, an advisory committee of 3-5 members of the graduate faculty will be formed to guide the student's work. The same committee will be responsible for preparation and administration of thesis exams and also for the review and evaluation of the thesis. The advisory committee chair and at least one other member of the committee shall be members of the forestry department. The other members may be selected from any academic unit including forestry.

Summary of Events.

1. The deadlines for receipt of applications and official transcripts in the office of the Graduate School are (a) the second Saturday in July for admission to the fall semester (b) the last Saturday in November for admission to the spring semester (c) the last Saturday in March for admission to the summer term.

2. Letters of recommendation should reach the forestry department chair by the same dates as above.
3. Acceptance by department and Graduate School should be announced one month or earlier than the desired matriculation date. A thorough review will be made by a screening committee of forestry department graduate faculty and the departmental adviser. Students rejected for admission will also be notified.
4. Registration for first semester's work after student's acceptance by the department.
5. Appointment of advisory committee chair, written plan for course work, and selection of tentative thesis areas all within first 2 months of residence.
6. Preparation of formal written thesis outline and preparation of research proposal by the eighth week of the second semester.
7. Completion of final, typed or reproduced review copies of thesis and submission of advisory committee at least 3 weeks in advance of oral defense of thesis. Handwritten or incomplete work will not be acceptable.
8. Oral exam to be followed by completion of required approval forms. If thesis requires modifications, this should be accomplished immediately to reach the graduate dean's office in due time set by the Graduate School. One bound copy of the thesis will be provided for the department, 1 for the chair of the advisory committee in addition to 2 copies required for the Graduate School and a copy for the author. Additional copies may be required for projects sponsored by outside agencies.

Master of Science Programs

The Department of Forestry offers 3 areas of concentration with specialties within each. Combination of emphasis is possible.

FOREST RESOURCE MANAGEMENT CONCENTRATION

Under this heading, a graduate program may be elected with an area of emphasis in forest management, forest ecology, forest resources measurements, forest resources economics, forest genetics, or forest policy and administration.

OUTDOOR RECREATION RESOURCE MANAGEMENT CONCENTRATION

Emphasis may be made in social, managerial, or natural science aspects of wildlands recreation and park planning and management in the given graduate program depending on the student's interest.

WOOD SCIENCE AND TECHNOLOGY

Physical, mechanical, or biological properties of wood or woodbase materials may be studied. Also, the production and marketing of forest products may be selected.

A specialty in environmental studies in forestry is available.

Assistantships and Fellowships. Research assistantships are sponsored each year by the McIntire-Stennis Cooperative Forest Research Act. Teaching assistantships funded by the School of Agriculture are also available.

In addition to general awards made through the Graduate School, stipends for research studies are available from the Federal Forest Service, the U.S. Department of Interior, other federal and state agencies, and private corporations.

Requirements

Since the normal minimum requirement for graduation is 32 semester hours, the completion of degree work for students holding assistantships should be accomplished within four semesters (including summer) which is also the normal maximum span for financial aid.

The student must attain a grade of *B* or better for all courses specifically

required in the student's academic program and which are offered by the Department of Forestry.

To gain teaching experience, graduate students are expected to assist in the classroom or laboratory for at least 1 academic semester (20 hours per week) during their tenure with the forestry department. The remaining semesters will also involve either research or teaching at the rate of 20 hours a week. All graduate students are required to enroll in Seminar (FOR 501) for 2 semesters for which they will receive 1 semester hour of credit.

Staff

In addition to the faculty listed in the Graduate School Catalog, several adjunct professors also hold appointments with the forestry department. These professors are assigned to the Forest Science Laboratory of the North Central Forest Experiment Station and the Crab Orchard National Wildlife Refuge. They advise and serve on graduate guidance committees.

Research Facilities Land. SIUC is well endowed with a number of different forest types which are available to the forestry department for teaching and research purposes. In particular, we are conducting or planning research and demonstration programs on forest plots and experimental fields of the 3000 acres of the University and its experimental farms. We also have access to wooded lands of the 600 acres of the Touch of Nature Environmental Center, 400 acres at the Pine Hills Field Research Station, and other forests.

Through various memoranda of understanding and special use permits we have use of forested lands and plots on the 43,000 acres of the Crab Orchard Wildlife Refuge, the 250,000 acres of the Shawnee National Forest, and the 4000 acres of the Trail of Tears State Forest, all of which are within an hour's drive of Carbondale. In addition, we can conduct basic research on the 640 acres tract of the Beall forest near Mt. Carmel, Illinois. The forests on this land represent one of the last central hardwoods remnants of virgin bottomlands and slopes and are under the jurisdiction of the Illinois Nature Preserves Commission.

Physical Facilities. A research greenhouse operated in cooperation with the U.S. Forest Service at the Tree Improvement Center on the western side of the campus is in operation for research and graduate teaching. Greenhouses and growth chamber facilities in the agriculture greenhouses in conjunction with the Department of Plant and Soil Science are also available.

A variety of laboratories for all phases of forestry research as well as access, through cooperative agreements, to laboratory facilities with other agencies on the campus are in service. The Forest Science Laboratory of the U.S. Forest Service, located adjacent to the forestry department offices, is available to our graduate students for research and other functions. In addition, a wood testing laboratory and a large wood products pilot plant is accessible at SIUC College of Technical Careers.

Geography

The Department of Geography offers programs that lead to the Master of Arts, Master of Science, and the Doctor of Philosophy degrees in geography. Students may also complete requirements for the Master of Science in Education degree in secondary education with a teaching emphasis in geography.

Geography is the discipline that deals with the relationship between human beings and their environment. The Department of Geography emphasizes the applied aspects of this theme, environmental analysis, planning, and management. The graduate program includes the several dimensions of this emphasis,

e.g., the role of resources in economic development and regional planning from physical/biological, technological, socio-economic, policy, and spatial viewpoints. Students take courses that give them a foundation in these dimensions of environmental planning and management through a core program, then develop an area of strength within this theme. Students also develop the analytic and research skills appropriate to their emphasis.

The graduate program stresses a problem-solving perspective, for which habits of critical analysis and dialogue are essential. Students take the initiative in designing and carrying out their programs with the guidance of an advisory committee and the departmental faculty. Geography maintains major linkages with many other departments. Courses and faculty expertise in other departments complement those in geography, and students are encouraged to take advantage of this. Each student's progress is assessed at regular intervals by the faculty, and the student is notified of the faculty's assessment. The student is expected to show continued progress in carrying out the program of study, and in developing habits of scholarship and professionalism.

Requirements for the Master of Arts and Master of Science Degrees

Advisement. Students newly admitted to the master's degree program are advised by the graduate program director, with the assistance of departmental faculty. Students choose a permanent adviser at the end of the first semester in residence. The choice of permanent adviser and advisory committee is made in consultation with the graduate faculty, taking into consideration such matters as faculty expertise and faculty advisee loads.

Degree Requirements. To obtain the master's degree, the student shall:

1. Complete all degree requirements specified by the Graduate School, and explained under degree requirements, master's degree program in the *Graduate Catalog*.
2. Include as required courses the following: GEOG 500-2, Principles of Research, during the first fall semester in residence; GEOG 501-2, Seminar in Geographic Research, the following semester; GEOG 410, Techniques in Geography; and one research seminar.
3. In consultation with an adviser, develop a program of study, identifying courses to be taken, research skills to be developed, deficiencies to be rectified. This shall be approved by the faculty. The program of study shall include a core of substantive courses in geography, as explained in the policy statement on core curriculum for master's degree students, available from the graduate program director. The program of study may include non-geography courses. The graduate faculty will meet to review and approve/disapprove the program of study of each master's degree student enrolled in GEOG 500. An approved program of study will be filed with the graduate program director and department chair as part of GEOG 500.
4. Develop a thesis or research paper proposal. The thesis or research paper proposal must be approved by the student's master's advisory committee before the student registers for GEOG 599, Thesis or GEOG 593, Research in Geography. A total of 4-6 credit hours of GEOG 599 may be awarded for a thesis at the discretion of the advisory committee upon final examination on the thesis (see #5 below). A total of 2-3 credit hours may be awarded for a research paper.
5. Submit a thesis or research paper to the advisory committee at least 2 weeks before the comprehensive examination. A student who writes a thesis will be examined by the committee, at a meeting that may be attended by other faculty and students. A research paper will be evaluated and approved by the advisory committee without public presentation.
6. Complete a comprehensive examination. The statement of departmental

policy on the master's comprehensive examination is available from the graduate program director. The comprehensive examination and evaluation of thesis or research paper shall be at least 6 weeks prior to the student's projected graduation date. Upon approval of the comprehensive examination and the thesis or research paper, the advisory committee will request the chair of geography forward to the Graduate School the recommendation that the master's degree be awarded.

Master of Science in Education Degree. This degree is available to applicants who consider teaching of geography as a career from the College of Education. For further details see the program statement for secondary education or higher education.

Accelerated Entry into a Doctoral Program. After completion of one semester of residence in the Master of Arts or Master of Science degree program the student may petition the graduate faculty for direct entry into the Ph.D. degree program. Prerequisite to petition is outstanding performance in GEOG 500, Principles of Research as judged by a majority of the faculty and clear promise of early development of requisite research skills. Additional evidence of a student's readiness to begin doctoral work includes undergraduate and graduate records, scores on exams such as the GRE, standardized tests, and reference letters. Students must meet all retention and exit requirements for the regular doctoral option. The student must submit the application materials required for regular admission to the Ph.D. degree program.

Requirements for the Doctor of Philosophy Degree

The doctoral degree in geography is a specialized research degree. The doctoral program assumes a broad background comparable to that provided by the department's masters core. It is designed to develop a comprehensive yet critically analytic knowledge of theory, literature, research design, and application related to environmental analysis, planning, and management. The doctoral student will emphasize two subfields in which to propose creative research.

Advisement. The doctoral student initially is advised by the graduate program director. Before the end of the first term of doctoral work, the student will select an adviser and they jointly will recommend a doctoral program of study and committee members to the graduate faculty for approval. The student and the doctoral committee will ascertain appropriate tools and cognate courses; proficiency in these will be certified by the doctoral committee. It is recommended that all doctoral students have a minimum of one semester of teaching or research assistant experience.

Degree Requirements. To obtain the Doctor of Philosophy degree, the student shall:

1. Complete all degree requirements specified by the Graduate School, and explained under degree requirements, doctoral degree program in the Graduate Catalog.
2. Include in the course of study the following: GEOG 500-2, Principles of Research during the first fall semester in residence; GEOG 501-2, Seminar in Geographic Research in the following semester; GEOG 510, Multivariate Techniques in Geography; and 3 research seminars.
3. Demonstrate a broad background comparable to the department's masters program by a procedure to be specified by the graduate faculty. The statement of departmental policy on core curriculum for doctoral students is available from the graduate program director.
4. In consultation with an adviser, develop a program of study, identify courses

to be taken, research tools to be developed, general dissertation topic, and names of adviser and doctoral committee members. The graduate faculty will review the tentative program of study in a meeting at the end of GEOG 500, and provide advice for modifications. The graduate faculty will meet at the end of GEOG 501 to approve/disapprove the program of study. An approved program of study will be filed with the graduate program director and departmental chair as part of GEOG 501.

5. Pass a comprehensive (preliminary) examination. Upon completion of program of study, the student will complete a written and oral comprehensive examination in 2 subfields that relate to the student's research emphasis. The written portion of the comprehensive examination will be prepared by the student's doctoral committee, which will evaluate the performance and judge the student's success or failure. The examination then will be circulated to the graduate faculty. The oral examination will take place not less than 1 week or more than 2 weeks from the time of the written examination. The oral examination will be conducted by the student's doctoral committee with appropriate opportunity for all graduate faculty to ask questions. The student's success or failure of the oral examination will be judged by the student's doctoral committee. A student who fails the written or oral comprehensive examination may retake the examination after appropriate remedial action, as specified by the doctoral committee. A student who fails the second written or oral examination will be dropped from the doctoral program.
6. Having passed the comprehensive examination, present a dissertation proposal at an open meeting of the Department of Geography. The written and oral examination and presentation of the dissertation proposal are prerequisite to admission to candidacy.
7. Complete a dissertation. The student's written dissertation will be circulated to members of the doctoral committee at least 2 weeks in advance of the proposed dissertation defense. The doctoral committee will issue a public invitation a week in advance of the scheduled date of the dissertation defense. After necessary revisions have been made, the dissertation will be sent to the student's doctoral committee for final approval. The judgment of the doctoral committee will be expressed to the student and forwarded to the chair of the department for recommendation to the Graduate School for conferring of the doctoral degree.

Geology

The Department of Geology offers programs leading to the Master of Science degree and the Doctor of Philosophy degree in geology.

Graduate Programs

The objectives of the graduate degree programs are to develop the student's competence in the basic fields of geology and to provide for specialization dependent on student and faculty interest. Facilities and staff are available for studies involving surface and subsurface mapping, structural geology, petrology, paleontology, micropaleontology, paleoecology, coal petrology, coal geology, energy resources, stratigraphy, sedimentation, Pleistocene geology, sedimentary petrology, sedimentary environments, crystallography, mineralogy, low temperature geochemistry, ore deposits, petroleum geology, environmental geology, geomorphology, hydrogeology, and applied and solid earth geophysics. Many of the faculty are actively conducting research in which statistical and computer techniques are applied to problem solving in the earth sciences. Interdisciplinary research with other departments is encouraged.

Southern Illinois and adjacent areas offer a wide variety of geological condi-

tions ideal for individual study and research. Experienced staff members work closely with students and provide individual assistance when necessary. The Illinois State Geological Survey and several major companies in the petroleum and coal industries actively support geological work in this area.

The major thrusts of the Ph.D. degree program focus on the geology of energy and mineral resources and geologic aspects related to exploration, development, utilization, reclamation, and environmental impact.

Students must be admitted unconditionally to the Graduate School before they can be officially admitted to either graduate program in geology. Admission to the graduate programs in geology is based on an evaluation of the preparation, ability, and promise of the applicant. Prerequisites for admission include: 1) receipt of GRE test scores sent directly to the Department of Geology; the Geology Advanced Test is required; 2) completion of department application forms which are available on request from the department; and 3) receipt of at least 3 letters of recommendation from professors, academic advisers, former employers, or others familiar with the applicant's academic performance, research, or other relevant work. The Department of Geology normally admits graduate students for entrance in the fall semester; rarely will applicants be considered for spring admission. The students will be expected to have satisfactorily completed at the undergraduate level the equivalent course work in the basic sciences required for a Bachelor of Science degree in geology at SIUC.

A student admitted with course deficiencies may be required to complete or audit some undergraduate courses. First year teaching assistants are required to enroll in and complete GEOL 500. Other specific requirements will be determined by the student's advisory committee and the department chair. Students are evaluated on an individual basis, their programs are determined by their career goals and the results of informal interviews with individual faculty members.

Requirements for the Master of Science Degree

A total of 30 hours of graduate work completed with a grade point average of 3.0 or better constitutes the minimum credit requirement for the master's degree.

Master's students are required to successfully complete GEOL 542A in their first year and GEOL 542B in the spring semester of their final year. Other courses taken are determined by the student and an advisory committee. The student will not be allowed to apply more than 8 hours of independent study, seminar, or research courses toward the master's degree (exclusive of thesis credits).

A student majoring in geology may select a minor field. The minimum course work should then include 20 hours of geology and 10 hours in the minor field.

A thesis subject must be approved by the chair of the advisory committee at least 20 weeks before the date of graduation.

A final oral examination, primarily concerned with defense of the thesis is administered as the last step before graduation. The student may be asked any questions the committee feels are relevant.

In order to pass the final oral examination, students must receive a favorable majority vote from their thesis committee meeting in formal session. Should the student fail the final oral examination, the student, upon concurrence of a majority of the committee, may arrange a time for a re-examination not less than 30 nor more than 120 days after the first examination. Students who fail the final orals on their second attempt will be ineligible for the master's degree from the Department of Geology.

Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to graduation, and a third copy must be presented to the Department of Geology.

Requirements for the Doctor of Philosophy Degree

Students entering the doctoral program in geology should meet, as a minimum,

the requirements for the master's degree program listed above. However, exceptional students may be considered for direct baccalaureate degree entry or accelerated entry into the doctoral program. This requires approval by a majority vote of the faculty.

The Ph.D. degree program in geology is based primarily on the student's successful conduct of original research and presentation of an acceptable dissertation describing the results of that research. To achieve this goal, the student must meet the criteria established by the University, the Graduate School, and the Department of Geology as described below.

Students having completed a master's degree program or its equivalent must, upon entering the Ph.D. program, submit themselves to a preliminary counseling conference at the beginning of their first semester in the program. The format of the preliminary counseling conference is established by the faculty, and a copy of the procedures may be obtained in the departmental office. The purpose of this conference is to allow the students and their advisers to establish a suitable curriculum and research program commensurate with their backgrounds, interests, and professional goals. Nevertheless, each student is expected to take graduate level courses (excluding readings, independent studies, and internship) of at least 3 credits each from at least 4 different faculty members at SIUC, 3 of whom must be in the Department of Geology. Students in the Ph.D. program must successfully complete GEOL 542B in their last year of residency. The normal post-master's credit requirement is 60 semester hours, 30 of which may be 600 level dissertation credits.

Before the end of their second year in the program, students shall have (1) established a dissertation committee including their adviser and 4 additional members, one of whom must be from a department other than geology; (2) demonstrated competence in at least one research tool (the student's advisory committee will determine the requirements and research tool competence); and (3) presented themselves to the advisory committee for a preliminary written and oral examination. The format of the preliminary examinations shall be established by the faculty and a copy of the procedures may be obtained in the departmental office. Students who fail the preliminary examinations and wish to remain in the program may, with faculty consent, retake the examinations during one of the next two examination periods. Students who fail the second written-oral examination will be dropped from the program. A student having passed the preliminary examinations and having demonstrated competence in at least one research tool as required by the advisory committee, shall be admitted to candidacy for the Ph.D. degree. A second research tool, if required by the advisory committee, must be mastered before the candidate may defend the dissertation.

As a candidate for the degree of Doctor of Philosophy in geology, the student is expected to make normal progress toward the successful completion and presentation of original research. The students must complete all requirements for the degree within a 5 year period after admission to candidacy. Ordinarily, the doctoral student should expect to spend a minimum of 2 years beyond the master's degree, or its equivalent, in residence. Students will be required to present an acceptable dissertation describing original research performed with minimal supervision and deemed by the advisory committee to be of such quality as to merit publication in an appropriate professional journal.* A final oral examination will be held after completion of the doctoral dissertation. This examination will concentrate on the defense of the dissertation but is not restricted to the dissertation topic or area.

Assistantships

Teaching assistantships are awarded and supervised by the Department of Geology. Research assistantships are usually available only from research

*Two research tools are required. The research tool is a practical knowledge of a foreign language or a computer language.

grants of individual faculty members and are supervised by the faculty member in receipt of the sponsoring grant. Research assistantship awards require prior approval of the assistantship committees of the department.

As a matter of policy, the Department of Geology does not ordinarily provide any student working for a master's degree financial support for more than two years. A Ph.D. candidate will not ordinarily be supported for more than 3 years post master's or master's equivalent. Requests for relaxation of this policy must be made in writing to the department chair.

Health Education

The Department of Health Education offers four concentrations for the Master of Science in Education degree in health education: school health education, community health education, industrial health, and safety education. The department participates in the Ph.D. degree in education. Students interested in seeking employment in the area of industrial safety or health services administration are encouraged to consult with the chair regarding appropriate courses.

Master of Science in Education Degree

Admission. Permission to enter graduate programs in health education is by application approval of the department and fulfillment of the following extra requirements:

1. Admission to the Graduate School.
2. Five letters of reference from persons who can evaluate past performance and potential for graduate work should be sent to the office of the department chair.
3. Miller Analogies Test scores must be submitted. Students may take this test on the campus of SIUC.
4. Candidates for the master's degree must have a 2.70 grade point average ($A = 4.0$) to be admitted in good standing. Students with grade point averages below 2.70 but above 2.40 may petition the department and, if accepted, will be admitted conditionally in accordance with regulations of the Graduate School.

Additional admission requirements for the concentration in school health education or safety education follow.

Candidates should be certified for teaching. Exceptions to this requirement may be appealed to the academic affairs committee of the department. Students enrolled in HED 434 must have psychomotor and communication skills. If questions arise concerning an individual student, an assessment will be made if necessary minimum psychomotor and communications skills are present. This assessment will be utilized to determine whether the individual student possesses these basic skills to enter the first aid class. The final assessment of the skills of each student will be made by the first aid coordinator in the Department of Health Education.

Additional admission requirements for the concentration in community health education:

1. Candidates must have undergraduate preparation in a discipline providing an adequate foundation for graduate work in community health education: i.e., nursing, biological science, health science, or social sciences.
2. Candidates planning to teach will be expected to meet certification requirements for teachers in Illinois.

Degree Requirements

SCHOOL HEALTH AND SAFETY EDUCATION

In school health and safety education, a minimum of 24 hours in health

education including a common core of 8 semester hours (533a, b) and a total of 32 graduate hours are required for the degree.

COMMUNITY HEALTH EDUCATION

A total of 40 semester hours, 8 of which must be gained through 12 weeks of practical fieldwork experience, is required. In addition to the common core courses (533a-4 and 533b-4) and a thesis (599-3 to 6), the community health education concentration requires HED 401-3, 488-3, 489-3, 500-3, and 526-3. A minimum of 2 semester hours in communications or group work methods is encouraged.

INDUSTRIAL HEALTH

The industrial health option requires a total of 40 semester hours including a common core of 8 semester hours (533a,b). A practicum which includes experience in industry is required of all candidates. A minimum of 26 hours in health education including a common core and the practicum are required for the degree.

Doctor of Philosophy Degree in Education

The Department of Health Education participates in the doctoral program in education with a concentration in health education. See the description of the Ph.D. degree in education.

Inquiries regarding application should be directed to the chair of the Department of Health Education.

Higher Education

Graduate Study in Higher Education

The Department of Educational Administration and Higher Education provides graduate study leading to the Master of Science in Education degree in higher education and to a concentration in higher education for the Doctor of Philosophy degree in education.

The graduate program in higher education offers students an opportunity to study and explore the concept of higher education as a field of study. The faculty of this program encourages and assists students in developing a lifetime commitment to the study of higher education. They also provide pre-service and in-service preparation for persons who are teaching or serving as administrators or who expect to teach or serve as administrators in two-year and four-year colleges and universities, and related post-secondary educational institutions and agencies.

FINANCIAL AID

The Department of Educational Administration and Higher Education makes an effort to find financial support for its graduate students through a number of graduate assistantships available throughout the University in different administrative offices and residence halls. It assists students in their application for fellowships and special awards. Students wishing to expand their administrative and teaching skills through a variety of paid experiences should consult their academic advisers about possible financial assistance, including graduate fellowships. Since a personal interview is required for almost all graduate assistantship positions, applicants should arrange to visit the campus as early as possible. A very limited number of paid internships are available through neighboring institutions.

THE MASTER OF SCIENCE IN EDUCATION DEGREE

The Department of Educational Administration and Higher Education offers a program in higher education leading to the Master of Science in Education

degree. The emphasis of this degree is to provide individuals with the background and skills important to accepting a wide range of teaching and administrative positions in higher education.

Application. Inquiries requesting application materials should be directed to the chair of the Department of Educational Administration and Higher Education.

Admission and Retention. Students applying for admission are encouraged to have had some part-time or full-time experience prior to starting graduate study. Students who expect to complete a program to prepare them for teaching in a community college are expected to have an undergraduate major in a subject area commonly taught in a community college.

Each applicant is considered for acceptance to graduate study on an individual basis with much consideration being given to evidence showing the applicant's commitment to the field of higher education as a career.

Each student works closely with an adviser in program preparation. Each student also has a committee that assists in reviewing the student's progress, in supervising the thesis or research paper, and in administering the final examination. The records of each master's degree student are reviewed periodically by the adviser and committee to determine whether the student should continue in the program.

Program Requirements. Each student will develop, with an adviser, a suitable sequence of courses that will be designed to assist the student in attaining academic and professional objectives.

Community Junior College Teaching (32 semester hours, minimum). Students who wish to teach in a community college must complete at least 20 semester hours in their teaching specialty and at least 12 hours in specified courses in educational administration and higher education, for a minimum of at least 32 semester hours. Students in this program must secure prior to admission a subject matter adviser from the faculty of the subject area who will agree to help plan the student's academic program.

The common core of courses required of students in this program includes the following:

EAHE 516-3 College Students and College Cultures

EAHE 518-3 College Teaching

EAHE 524-3 Curriculum Design and Policy

EAHE 526-3 The Community College

Students must also complete a minimum of 20 semester hours in their teaching specialty. The adviser will often recommend additional courses to assist the student in meeting special requirements. Recommended courses beyond the minimum requirements are:

EAHE 500-3 Educational Research Methods

EAHE 595-2 to 6 Internship

EAHE 592-2 to 3 Special Problems (individual) or

EAHE 599-3 Thesis

College Student Personnel (44 semester hours, minimum). Students planning to enter positions in college student personnel administration must complete a minimum of 44 semester hours of courses with an emphasis in either student development or student affairs administration. Those wishing to complete the counseling emphasis utilizing additional courses in the Department of Educational Psychology should consult the graduate adviser of the College Student Personnel program; this will involve completing a double major in higher education and in educational psychology and will consist of 55 semester hours. It

should be noted that students in either the student development or administration emphases are encouraged to include counseling courses as electives.

The common core of courses for this program includes (20 semester hours):
EPSY 402-3 Basic Statistics (a higher level course may be substituted)
EAHE 500-3 Educational Research Methods
EAHE 508-2 Student Development Theories
EAHE 515-3 College Student Development: Operations and Policies
EAHE 516-3 College Students and College Cultures
EAHE 535b-2 Higher Education Seminar I: Law and Higher Education
EAHE 535s-4 Higher Education Seminar I: Professional Seminar in Student Affairs

Additional required courses for specialty in student development:
EAHE 454-3 Contrasting Philosophies of Education
EAHE 510-3 Higher Education in the United States
EAHE 535a-1 Higher Education Seminar I: Group Work
EAHE 595-3 Internship (with emphasis in student development)
EAHE 592-3 Special Problems (individual) or
EAHE 599-3 Thesis (with emphasis in student development)
11 hours of electives

Additional required courses for specialty in administration:
C&I 585r-3 CBI-Computer Forecasting in Education
EAHE 513-3 Organization and Administration in Higher Education
EAHE 535N-1 Higher Education Seminar I: Supervisory Management
EAHE 595-3 Internship (with emphasis in administration)
EAHE 592-3 Special Problems (individual) or
EAHE 599-3 Thesis (with emphasis in administration)
11 hours of electives

Students are encouraged to develop flexible programs preparing them in general student affairs administration or in one or more of a particular student service (i.e., student center, housing, international services, activities, financial assistance, or alumni affairs). Students are advised to be familiar with the national preparation standards approved by the Council for the Advancement of Standards (CAS). In addition, each student must complete a paid internship experience (usually a graduate assistantship). It is recommended that the required credit internship experience be in a setting other than where the paid internship is completed.

Organization and Administration (32 semester hours, minimum). Students planning to prepare for careers in academic administration (i.e., academic advising, administrative secretary to an academic administrator); in fiscal affairs administration (i.e., bursar, housing, business officer, student center financial officer, college purchasing agent); or in general program administration (i.e., administration of research, institutional studies, auxiliary enterprises) must complete a program of at least 32 semester hours. The common core of this program includes:
EAHE 500-3 Educational Research Methods
EAHE 510-3 Higher Education in the United States
EAHE 513-3 Organization and Administration in Higher Education
EAHE 516-3 College Students and College Cultures
EAHE 518-3 College Teaching
EAHE 595-2 Internship (unless specifically waived because of previous suitable work experience)

Students pursuing this program emphasis should enroll for courses and seminars to strengthen their general background and specific skills in keeping with their vocational goals. These will include at least 2 hours from one or more of the following courses (which are frequently scheduled as two-hour seminars):
EAHE 535e Higher Education Seminar I: Academic Advisement
EAHE 545e Higher Education Seminar II: Problems of Central Administration

EAHE 545f Higher Education Seminar II: Business and Fiscal Affairs
EAHE 535b Higher Education Seminar I: Law and Higher Education

Research Requirements (for all master's degree specializations within higher education). Each student shall demonstrate research competencies through writing an acceptable research paper or master's thesis. Students who select the thesis option must have an approved prospectus on file at least 6 months in advance of the anticipated graduation date; they must enroll for 3 hours of EAHE 599, Thesis; and they must have a committee of at least 3 members. Students who elect to write a research paper are not required to register for any credit courses; they may, however, elect to enroll for 3 semester hours of EAHE 592, Special Problems (individual) for this important activity.

Students in the community junior college teaching emphasis must submit an acceptable research paper on a topic in their subject matter (teaching) field with final approval coming from both the adviser in the Department of Educational Administration and Higher Education and the representative of the subject area department who agrees to work with the student in writing the paper. In exceptional cases, the paper may be in higher education instead of the subject matter field.

Students in the college student personnel program usually prepare research papers on a topic concerned with student development and related activities. However, they do have the option of writing a thesis.

Students in organization and administration may write a research paper or a thesis to demonstrate their research competencies.

Final Examination and Grade Requirements. All master's degree students are required to complete successfully a final examination which may be written or oral or both. They must complete at least 21 semester hours of graduate credit with grades of A, B, or C in courses graded A through F. Upon successful completion of all requirements, including at least a B average for all course work, the student is recommended to the Graduate School for graduation.

Doctor of Philosophy Degree in Education with a Concentration in Higher Education

The Department of Educational Administration and Higher Education participates in the doctoral degree program in education with a concentration in higher education.

Admission and Retention. Each applicant is evaluated on an individual basis with much consideration being given to evidence of the applicant's commitment to higher education as a field of study and as a career. Each applicant should plan to visit the campus and interview members of the faculty related directly to the higher education doctoral program. Each application is evaluated and acted upon by the higher education faculty and by the admission committee of the Department of Educational Administration and Higher Education.

Each student selects a doctoral committee in keeping with the regulations set for the Doctor of Philosophy degree in education. This committee of 5 members assists the students in selecting a plan of study which meets the minimal requirements of the degree and of the program. Requirements beyond the minimum may be established by the student's doctoral committee.

The records of each doctoral student are reviewed annually by the student's doctoral committee to determine whether the student should continue in the program.

Program Emphasis and Requirements. Earning the doctorate is not dependent merely upon the completion of a specific set of courses. Rather, the completion of the Doctor of Philosophy degree is based upon the competence of the student

relating to the basic writings in the field and upon the student successfully completing an original research study of merit. Each student, in collaboration with and concurred by the doctoral committee, determines the program of courses, which may include work from other departments. An internship may be required if the applicant has not had previous professional experience in higher education.

- The basic core courses for the degree include:
- EDUC 590-4 Doctoral Seminar in the Cultural Foundations of Education
 - EDUC 591-4 Doctoral Seminar in the Behavioral Foundations of Education
 - Higher Education Core-16 hours
 - EAHE 510-3 Higher Education in the United States
 - EAHE 518-3 College Teaching
 - EAHE 550-2 Higher Education Seminar III (Capstone)
 - EAHE 589-2 Higher Education Research Seminar

- Two courses chosen from the following 5 courses:
- EAHE 513-3 Organization and Administration of Higher Education
 - EAHE 516-3 College Students and College Cultures
 - EAHE 524-3 Curriculum Design and Policy
 - EAHE 528-3 Finance in Higher Education
 - EAHE 554-3 Seminar in Philosophy of Education

In addition, students, in consultation with their doctoral committees, select a program emphasis including a minimum of 16 semester hours beyond the higher education core. Each doctoral student must complete at least 40 semester hours of course work beyond the master's degree plus 24 semester hours of dissertation.

Research Requirement. The Ph.D. degree in education is a research-oriented degree. The student must demonstrate competency in one or more research tools selected in collaboration with and approval by the doctoral committee in keeping with the guidelines for the Ph.D. degree in education. The research tools should be related to the type of dissertation that is to be submitted and must meet the guidelines outlined in the Ph.D. policies and procedures manual for administering the Doctor of Philosophy degree in education. If the research tool requirement is met by one or more credit courses, such work is above the 64 hours of course work noted above.

Preliminary Examination. The preliminary examination in higher education is a comprehensive written examination prepared each semester by a special examination committee of the graduate faculty members of the higher education program. The student may also be asked to complete successfully an oral examination. Students may petition their doctoral chair to take the examination when they have successfully completed the research competency requirements, the doctoral seminars, and all or most of the course work listed on the approved program. This petition must be submitted during the first week of the semester or summer session in which the student plans to take the examination. A person can be advanced to candidacy for the degree only upon successful completion of this examination and the completion of most of the course work (including courses in which the grade of *Inc* was originally given), the research tools, and the residency requirement. Students are allowed 3 chances to pass the preliminary examination.

Dissertation. The dissertation is the scholarly study of an appropriate research problem approved by the student's doctoral committee. A minimum of 24 semester hours of dissertation credit is required. The committee is composed of at least 5 faculty who have graduate faculty status. The chair and 2 other members of the committee must be members of the Department of Educational Administration and Higher Education; at least 1 other member of the committee must be from the College of Education in a department other than educational administra-

tion and higher education; and at least 1 other member from an academic unit outside the College of Education.

The student must pass a final oral examination, at which time the dissertation is defended. Final approval of the dissertation must be granted by the doctoral committee, and 2 unbound copies of the dissertation must be filed with the Graduate School. At least 1 bound copy must also be filed with the Department of Educational Administration and Higher Education.

History

The Department of History offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees.

Research Facilities

Morris Library on the campus is the fourth largest library in Illinois. Housed in a modern seven-story building, it contains 2 million volumes and is growing at a rate of over 60,000 items per year. Morris Library acquires current scholarly publications not only from United States but also from Latin America and European publishers. The long-term use of highly specialized materials is afforded by the affiliation of Morris Library with the Center for Research Libraries in Chicago.

The holdings in history and related areas amount to more than 500,000 volumes. To these must be added 20,000 reels of microfilm containing printed secondary works and 6,000 volumes of printed source material and 30,000 volumes of early American imprints prior to 1800 on microtext. Among the materials in the process of acquisition is a microtext edition of all newspapers published in the United States prior to 1820.

The library also possesses substantial holdings in the form of microfilm editions of presidential papers, dispatches and instructions of the state department since 1789, massive holdings in consular records, and the Adams family papers. The library has been a complete repository of United States government documents since 1954 and holds a large collection of earlier documents, including a virtually complete Congressional set. With the publication of the Ulysses S. Grant papers by the Southern Illinois University Press and the location of the Grant Association on the campus, the library is acquiring what will become the country's leading collection of Grant books and correspondence.

Following the acquisition of the 7,000-volume library of Jose Morgrovejo Carrion of Ecuador in 1960, the library has systematically expanded its holdings in Latin American history, government, literature, and anthropology. The papers of Vasquez Gomez, Mexican vice-president (1907-1919), and Samuel Putnam, American expert on Latin American affairs, provide rich research opportunities. Extensive files of serial publications from Argentina, Bolivia, Paraguay, Uruguay, Cuba, and Mexico also contain diverse sources for investigation. Many of the above materials are unavailable elsewhere in the United States.

Holdings in European history include the standard documentary publications, as well as scholarly serials and journals. The materials to support research are strongest in modern German and English history.

Admission

Graduate work in history is offered at both the master's and the doctoral levels. Admission to programs administered by the Department of History must be approved by the department, with approval dependent upon the preparation, ability, and promise of the individual student.

M.A.: for the Master of Arts degree major in history, the department's admission requirements are those of the Graduate School, except that students admitted with a GPA of less than 2.7 must establish a 3.00 GPA in history courses

in the first semester. The department reserves the right to terminate from the history program a student who does not establish and maintain a 3.00 GPA in history courses.

Ph.D: for admission to the doctoral program, each applicant should submit to the department, in addition to the material required by the Graduate School, the following: three letters from former teachers, preferably at the graduate level; a letter in which the applicant expresses professional and personal objectives; and a report of the result of the aptitude test (both verbal quantitative) and of the Graduate Record Examination.

Requirements for the Master of Arts Degree

Two programs of study lead to the M.A. degree in history: the thesis and two-field options. The thesis option requires a thesis which demonstrates the candidate's capacity to carry out independent and original research. A candidate in the thesis program should, with the approval of the chair, select a thesis adviser and a thesis topic by the end of the first full-time semester in the program. As many as six semester hours may be taken in thesis research.

A candidate must submit an acceptable thesis and pass a comprehensive oral examination covering the selected field of concentration and the candidate in the thesis program must take at least one research seminar in which a paper will be written.

A candidate in the two-field program must complete two research papers with a grade of *A* or *B*. These papers are normally to be prepared in the department's regularly scheduled research seminars. A copy of one paper must be filed with the Graduate School; copies of both papers must be filed with the department. Each candidate is required to pass a comprehensive written examination conducted by a committee consisting of three persons. The examination will cover two fields chosen in consultation with the candidate's committee from the following list.

United States to 1877	Europe, early modern
United States, 1865 to present	Europe, modern
Latin America, Colonial	England, modern
Latin America, independent	East Asia
Europe, Mediaeval	

History may be chosen as a minor when a student's program of study allows for a graduate minor or as a teaching specialty for the Master of Science in Education degree major with a major in secondary education or higher education.

Students enrolled in the Master of Arts degree program must consult with the graduate adviser in the Department of History before registering for courses. Students enrolled in either of the Master of Science in Education degree programs must consult the history graduate adviser and the appropriate department in the College of Education before registration.

For the Master of Arts degree major in history, 30 semester hours of satisfactory graduate work are required; at least 18 of these 30 hours must be on the 500 level. Within this general requirement, at least 20 semester hours must be in appropriate history courses, with at least 10 of the 20 hours on the 500 level. The remainder of the hours may be taken in courses on the 400 level. The M.A. degree student must take at least two research seminars in history.

All candidates for the Master of Arts degree must satisfy the requirement for a research tool by demonstrating proficiency in a foreign language or in quantitative methods (statistics, computer programming, or data management).

The language research tool option may be fulfilled either by passing Foreign Language 488 with a grade of *A* or *B*, or by achieving a satisfactory score on the Graduate School foreign language test, or by special testing arrangements made between the student, the graduate adviser, and the student's adviser.

Graduate students may demonstrate proficiency in quantitative methods by passing two courses with a grade of *A* or *B*, from among the following: CS 202;

EPSY 506 and 507; POLS 503b; MATH 514, 515, and 516A and B. The courses selected will be determined in consultation among the student, the student's adviser, and the graduate adviser. With the consent of the graduate adviser, other courses in statistics and computer science may be accepted in fulfillment of the research tool requirement. None of the courses used to satisfy the research tool requirement may be counted as part of the thirty semester hours of graduate work required for a master's degree.

The Doctor of Philosophy Degree

A student seeking the Ph.D. degree in historical studies must pass preliminary examinations and submit a satisfactory dissertation which involves independent and original research. In preparing for preliminary examinations, a doctoral student must complete at least 24 hours of credit on campus within a period not to exceed four calendar years before being admitted to candidacy. The courses and hours of credit necessary for a doctoral student to prepare for preliminary examinations will be determined by the student's advisory committee and must include successful completion of four research seminars with grades of *A* or *B*. The goal is to develop high competence in the selected fields in which the student will be examined. Students are responsible for preparing five fields, one of which may be outside the field of history. Three of the five fields will be in the broad areas of United States, European, Latin American, or Asian history encompassing major historical periods; two of the fields will emphasize depth of preparation rather than breadth and will normally involve shorter time periods or topical specialties. A list of Ph.D. degree fields reflecting the current expertise of the faculty and approved by the department's graduate studies committee will be kept on file in the office of the graduate adviser and the department chair. Examinations will cover four fields and the student can be certified as proficient in the fifth field, providing that all courses taken in preparation for that field are passed with grades of *A* or *B*. Full-time Ph.D. students who have not passed their preliminary examinations must take, in each semester, at least six semester hours of graded courses, at least three of which must be on the 500 level. Dissertation hours may be taken prior to admission to candidacy only with the approval of the graduate studies committee.

The department requires all candidates to pass a reading examination in two foreign languages. With the approval of the department, quantitative methods, (statistics, computer programming, or data management) may be substituted for one language. Procedures for demonstrating proficiency in foreign language or quantitative methods are the same as those required for the Master of Arts degree. These requirements must be satisfied prior to the preliminary examinations.

After completing the course work, fulfilling the foreign language requirements, and passing the preliminary examinations, the student will be recommended for Ph.D. candidacy and will devote full time to the dissertation. Dissertation subjects must be chosen from either United States history, Latin American history, or European history. The final oral examination will cover the field of the dissertation and related matters.

Assistantships and Fellowships

Fellowships and teaching assistantships are available to qualified graduate students. All carry stipends and remission of tuition. Application for these awards should be submitted by February 1.

Additional information concerning the graduate program in history may be obtained by writing to the chair, Department of History.

Journalism

The considerable growth of the mass communication industries has caused an

increased need for professionally educated men and women with graduate degrees who want to pursue careers as journalists in the mass media, communication specialists in industry and government, researchers, teachers, and university faculty members.

Graduate programs in the School of Journalism are designed to help students achieve significant intellectual growth as they prepare for these careers. It is intended that the student's entire graduate program be a challenging, stimulating, and valuable educational experience. For this reason, the School of Journalism has 3 degrees, each offering a different approach to graduate education. In each degree program, students take some of their work in departments other than journalism so that they may explore areas of interest to them and inquire into other disciplines.

The School of Journalism offers graduate programs leading to the Master of Arts, the Master of Science, and the Doctor of Philosophy degrees with a major in journalism. Available areas of emphasis are: social and behavioral approaches to communication processes and effects; media history; and legal studies in mass communication. The Master of Arts and Ph.D. degrees are research degrees culminating in the preparation of a thesis or dissertation. Students are expected to conduct research to provide answers to important questions, to discover new information, to show new associations between previously known facts, or to supply historical or legal information about particular subjects.

The Master of Science degree is a media-oriented degree designed to be of benefit to individuals who wish to prepare themselves to be more proficient in their professions and does not necessarily involve the kind of research required in preparing a thesis.

Admission to the Degree Program

Persons seeking admission should consult the appropriate section of the Graduate Catalog. GRE or GMAT Aptitude Test scores must be submitted before a student enters the program. Students without a previous journalism or mass communication degree or professional media background are usually required to take some undergraduate courses without credit as a way of gaining background. The amount of this course work will be determined by an adviser in consultation with other faculty members. A TOEFL score of 600 or higher is required of all foreign students, except those from English-speaking countries. A minimum undergraduate GPA of 3.0 is required for acceptance into the graduate program.

Academic Retention

In addition to the retention policies of the Graduate School, the School of Journalism requires that each master's degree student must maintain an overall grade point average of 3.00 ($A = 4$) and each Ph.D. student must maintain an overall grade point average of 3.25 ($A = 4$). Upon falling below this average, students will be allowed one academic term to bring their averages up to the minimum; failing this they will be dropped from the program and will not be allowed to re-apply. No course in which the grade is below *C* shall count toward the degree nor fulfillment of any requirement, but the grade will be included in the grade point average. No more than 3 hours of *C* work in graduate courses will count toward either degree.

All students are subject to regular review by the School of Journalism graduate faculty. Those not attaining the minimum acceptable standards or who in any way fail to meet any other requirements or standards set by the faculty will be dropped as majors. Doctoral students may be required to take extra work if any grades of *C* or lower are earned at SIUC. Students on academic probation are not eligible to hold graduate assistantships.

Master of Arts Degree

The Master of Arts degree student usually builds on a base of social science and a

study of journalism or mass communication leading to a career in teaching, scholarship, or applied research in advertising, public relations, media management, opinion research, or similar areas. The degree also may lead to Ph.D. studies.

Candidates for the M.A. degree must complete a minimum of 30 semester hours of graduate work, including 3 hours for the thesis. Additional courses may be required if students change their areas of interest or if performance in course work indicates the need for more course work. No fewer than 18 nor more than 21 semester hours of course work must be earned in journalism. Remaining course credits should be taken in departments whose disciplines have strong theoretical bases. Courses in some departments may not, therefore, be used to meet requirements. Students often elect courses in history, psychology, political science, sociology, anthropology, economics, and guidance.

Each student is required to prepare, write, and defend a thesis which demonstrates a capacity for investigation and independent thought. Students must be enrolled for thesis credit during the semester they defend their theses.

Failure to present and defend an acceptable thesis proposal, or failure to maintain continuous progress toward completion of degree requirements serve as reasons for dismissing a student from the program. Additional work may be required of those students whose progress is interrupted.

Master of Science Degree

The Master of Science degree program with a major in journalism provides advanced professional training for careers in the mass media and related areas. Persons with graduate degrees from accredited schools of journalism are in demand by newspapers, magazines, broadcasting, advertising and public relations firms, government, and industry. The growing complexity of communication increases the need for persons sensitive to the intricacies of communicating via the mass media.

The Master of Science degree work consists of 2 separate programs. They are broadly based and draw upon the resources of a diverse and knowledgeable journalism faculty and upon many other academic areas in the University. From such resources, the School of Journalism provides individually developed programs for graduate students aiming at such careers as newspaper reporting, radio and television news, advertising, public relations, magazine editing, media management, and teaching.

PROGRAM A

Thirty semester hours are required for the Master of Science degree in program A, including 3 hours for thesis or professional project, whichever the student chooses. From 15 to 21 semester hours of course work must be earned in journalism including one research course. Remaining semester hours should be taken in a discipline or disciplines appropriate to the student's area of study. Students must successfully complete 6 hours of written master's comprehensive examinations and a two-hour oral. Formal, oral defense both of the thesis or project proposal and of the completed thesis or project is required.

PROGRAM B

Program B requires 36 semester hours of course work, but the student writes a research paper instead of a thesis or master's project. The research paper is normally an extension of the requirements for a specific course of the student's choosing. From 15 to 21 hours of course work must be earned in journalism including one research course. Remaining semester hours should be taken in a discipline or disciplines appropriate to the student's area of study. Students must successfully complete 6 hours of written master's comprehensive examinations and a two-hour oral.

Doctor of Philosophy Degree

The Ph.D. degree program is designed to produce scholars and teachers who can make significant contributions to the understanding and development of the mass media and their utilization. Doctoral studies include the entire process of mass communication, including communication theory, media history, mass media law, and mass media institutions and their interrelationships with other societal institutions. The program asks students to achieve breadth in their studies, but allows each student to develop a special area of interest and research.

Normally, 3 years of concentrated study, including preparation of a dissertation, will be required to earn the degree, which is built on the base of a suitable master's degree program.

Minimum course requirements for the Ph.D. degree include 38-40 semester hours beyond the master's degree, including basic foundations in mass communication theory and research methods (JRNL 500 and 504). In addition, programs of study will include 2 appropriate research tools, as described below. All doctoral students must complete a graduate course in media law and a graduate inferential statistics course (GUID 506). An evaluation of previous work is made and transfer credit is allowed only for work which fits the degree plan. Approximately two-thirds of course credit hours will be earned in journalism and mass communication; the remaining hours will be earned in a nonjournalism area of study, which might include work in more than one department. Additional course work may be required if the student's area of interest changes or if performance in courses or comprehensive examination results indicate the need.

During the second semester of enrollment, each Ph.D. student will prepare a total program plan for the degree and secure sponsorship by a dissertation committee chair. The plan should include a list of courses and tools, with some explanation and justification for their selection in relation to academic goals. The plan will be discussed and modified, when appropriate, before approval. Once approved, the plan may be changed only with permission of the adviser. The student may deviate from the 2/3-1/3 pattern if the resulting program contains work leading to appropriate research or professional career goals.

Tool Requirements. Minimum course requirements listed above do not include courses taken to satisfy tool requirements. The Ph.D. student, in consultation with the adviser, will select 2 useful tools from among:

Research Design—JRNL 501

Historiography—JRNL 530

Legal Research—JRNL 540

Statistics—GUID 506 and 507

Computer Science—Courses to be selected

Modern Foreign Language—Standard Proficiency Examination

Courses listed as tools are subject to change without notice at times when departments change course content, titles, or numbers. Only grades *A* or *B* are accepted for tool courses.

A student may propose other research tools for consideration by the School of Journalism, but such tools must be useful in the conduct of research, especially for the doctoral dissertation.

Examinations. Each student must pass rigorous comprehensive written and oral examinations after completing tool requirements and all course work (with all incomplete and deferred grades removed). The examination must be completed within one year after the student has satisfied all course and tool requirements. Failure to successfully complete the exams during the one-year period will result in dismissal from the program. While the form and scope of the examinations are at the discretion of the graduate faculty members of the School of Journalism,

within basic parameters, the examinations comprehensively test the student's understanding of communication and communication research. Each student takes a minimum of 20 hours of exams including an outside area.

Students prepare dissertation proposals, defend and explain the proposals before their committees and complete the research and write their dissertations. Within one year after admission to candidacy, students must have written dissertation proposals approved by their committees. Dissertations must be based on scholarly research and independent thought.

Students must enroll for a minimum of 24 hours in JRNL 600. Each student must enroll in JRNL 600 each term between admission to candidacy and completion of all requirements for the Ph.D. degree.

Graduate students who have completed their course work and the minimum number of credits required for thesis or dissertation must enroll in JRNL 601, Continuing Research, each semester until the completion of their degree programs.

The dissertation defense will be before members of the dissertation committee (all of whom must be present) and interested observers. Although others than committee members may ask questions of the student, the pass or fail decision on the oral will be made by committee members only.

Linguistics

The goal of the Department of Linguistics is to bring students to an understanding of language systems which is both theoretical and practical. For students committed to the study of language, the department offers 2 M.A. degree programs: the M.A. degree in English as a foreign language and the M.A. degree in applied linguistics. Students whose career goals are to enter the large and increasing job market of teaching English as a foreign/second language, to help train other teachers, and to develop curricula and teaching materials may select either the one-year (i.e., three-semester) program in English as a foreign/second language or the two-year program in applied linguistics with a concentration in teaching English as a second or foreign language. This second option is for those interested in a more detailed study of the issues, theories, and concepts involved in linguistics and second language acquisition. In this two-year program students are exposed to current research through seminars and other advanced courses and through the writing of a thesis in an area related to second language teaching and learning.

The other options offered in the M.A. degree in applied linguistics are in these concentrations: phonetics/phonology, syntax/semantics, psycholinguistics, and linguistic variation (historical or sociolinguistics). These options include all the content of a traditional program in theoretical linguistics as well as an applied linguistics focus. For students who are interested in language study but not committed to either of our graduate majors, the department offers a number of interesting, non-specialist courses which may serve as electives in related degree programs, such as communication disorders and sciences, psychology, English, foreign languages, speech communication, and anthropology. A sequence of courses is also available for those wishing to pursue a double major combining English as a foreign language or applied linguistics with other programs at the master's level. Applicants for admission should send inquiries to the chair, Department of Linguistics, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Admissions

Applicants for admission to either degree program, in addition to meeting the general conditions for admission to the Graduate School, are expected to have

undergraduate GPA's of at least 3.0 ($A = 4.0$). Applicants with GPA's below 3.0 may be granted conditional admission. (Students admitted on a conditional basis must earn a graduate GPA of 3.0 after the first 10 hours of letter-graded course work taken in their program; failure to do so will result in the student's being dropped from the program.) In addition, applicants who are not native speakers of English must have a TOEFL score of at least 570. Although submission of GRE scores is not required for admission to the Graduate School or to the department, applicants are advised that high GRE scores can be helpful in competition for University fellowships or departmental assistantships. Lacking an undergraduate major in linguistics or English as a foreign language, applicants are advised that preparation in related fields is desirable.

All students entering either the M.A. degree in applied linguistics or the M.A. degree in English as a foreign language programs must demonstrate a minimum level of knowledge of traditional English grammar. This is tested by a departmental diagnostic examination administered to all students at the beginning of their first term. Students not able to pass the test will be required to take an undergraduate course in English grammar and pass the course with a grade of *B* or better. This course cannot count toward a graduate degree in EFL or applied linguistics.

Applicants for admission must also demonstrate spoken and written proficiency in English, which is measured by departmental diagnostic examinations given upon the student's arrival. Students not able to pass these tests must take suitable remedial work provided for by the department.

Retention

Students admitted on a conditional basis must earn a graduate GPA of 3.0 after the first 10 hours of letter-graded course work taken in their programs; failure to do so will result in the student's being dropped from the program.

If, after one term on academic probation, as defined either by the Graduate School or herein, any students who fail to return to good standing will not be entitled to financial assistance from the department. If, after 2 terms on academic probation, they fail to return to good standing, they will be dropped from the program.

When students accumulate 3 or more incompletes, they will be put on academic probation and will return to good standing by reducing the number of incompletes to 2 or less. While on academic probation the student is subject to the above stipulations for financial assistance and for being dropped from the program.

The core courses (LING 401, 402a, and 570), as required by a student's particular program, must be passed with a grade of at least *B*. These courses may be repeated once in order to fulfill that requirement.

Comprehensive Examination

Toward the end of their course work, students must take and pass a written examination covering the areas of their concentration. This examination may not be taken more than twice. In order to be eligible to take the examination, department students must have at least a 3.0 GPA when the examination is given, and must have passed the test of traditional English grammar. Students having a GPA just below 3.0 may petition the department's executive committee to be considered for a special waiver of the requirement. However, petitioning the committee does not automatically result in a waiver.

Minimum Grades in Core Courses

All students in the M.A. degree in an EFL program must receive a minimum grade of *B* or better in the following core courses: LING 401, LING 402a, and LING 570. All students in the M.A. degree in applied linguistics program must receive a minimum grade of *B* or better in the following core courses: LING 401

and LING 402a. This regulation also applies to students in either program who took the courses in question as undergraduate students.

Students who receive a grade lower than *B* must take the course again. They will register officially for the course; this requires a letter of permission from the department. Both grades will be counted in the student's GPA.

The courses in question must be completed with a minimum grade of *B* before the student takes the comprehensive examinations. Students repeating the course during the term in which they wish to take the comprehensive examinations must have a letter from the course teacher indicating that they have a current grade standing of at least a *B*.

Students who are repeating any of these courses may take courses concurrently or sequentially for which these courses are prerequisites before getting an acceptable grade.

Grade Point Average to Graduate

All graduate work must be completed with an overall GPA of 3.0.

Master of Arts Degree in English as a Foreign Language

Applicants for admission to the English as a foreign language program who are not native speakers of English should have an undergraduate concentration in English language or literature, or the equivalent in practical experience.

The EFL program at SIUC is uniquely different from many such programs in the way it blends theory and practical matters; it prepares students intellectually as well as experientially, so that they will be capable not only of conducting a class in English, but of making the decisions necessary for choosing among competing approaches, conflicting situations, and unforeseen activities. The methodology courses of the EFL program provide a blend of theory and practice in the study of EFL/ESL. Thus, graduates of this program are prepared to participate in teacher-training as well as to be classroom teachers.

As a vital part of the graduate training program in EFL, all students in that program are required to engage in practice teaching assignments through enrollment in LING 581 (practicum in EFL/ESL: oral English) and LING 585 (practicum in EFL/ESL: written English). Waivers may be given according to departmental guidelines. These courses are designed to enable the student to carry out practice teaching responsibilities in the LING 100 (oral English), LING 101, 105, 290 (composition for foreign students), classes in oral or written English at CESL, tutorial work in the English remedial workshop, (i.e., the writing clinic or developmental skills), or other appropriate courses. The purpose of these practice courses and practice teaching assignments is to expose students to some of the types of teaching activities they will ultimately be engaged in after they receive their degrees.

The total credit hour requirement is a minimum of 32 credit hours. A minimum of 15 of these hours must be at the 500 level.

Required Courses (16 semester hours)

LING 401-4 General Linguistics

LING 402a-3 Articulatory Phonetics

LING 570-4 Theory and Methods of EFL/ESL

LING 581-2 Practicum in EFL/ESL: Oral English

LING 585-3 Practicum in EFL/ESL: Written English

The remaining 16 semester hours in the M.A. degree in an EFL program are to be selected from 2 groups of courses within the departmental offerings. Occasionally courses from related departments are used to complete elective requirements where such courses are appropriate to the student's area of specialization.

All EFL students who are native speakers of English must have the equivalent of 1 semester of study of a modern language (including exotic language) within

the preceding 5 years (excluding high school). This study may have been academic or direct experience (living in another country) with formal study (e.g., Peace Corps classes, FSI, Army language schools). In default of such background, the student must register for at least one semester of study of a modern language at SIUC. Enrollment in an undergraduate level course for credit or for audit satisfies the requirement. Students who are not native speakers of English, in recognition of their experience in learning English, are exempted from this requirement.

A thesis is not required for the M.A. degree in English as a foreign language; however, a candidate for this degree may optionally choose to write a thesis. In that case, the thesis policy and guidelines for the M.A. degree in applied linguistics apply. A research report is required in lieu of a thesis. The research report may have been prepared as a term paper for any advanced course, must have earned an *A* or *B*, must give evidence of the candidate's ability to do research reporting, and must be in acceptable form. In addition to the copy required by the Graduate School, the student must submit a copy to the department.

A certificate of attendance may be granted to those students who do not satisfy the graduation GPA requirement (3.0), the comprehensive examination requirement, the English language proficiency requirement, or the traditional English grammar proficiency requirement.

Master of Arts in Applied Linguistics

The Master of Arts degree with a major in applied linguistics encompasses a broad range of core courses in linguistics plus an in-depth sequence of courses in 1 of 5 concentrations chosen by the student: TEFL/TESL, phonology, syntax/semantics, psycholinguistics, or linguistic variation. A minimum of 45 credit hours is required for the applied linguistics concentration; at least 15 of these must be at the 500 level.

Core Requirements (22-25 credit hours).

LING 401-4 General Linguistics

LING 402a-3 Phonetics

LING 406-3 Introduction to Historical Linguistics (optional for TEFL/TESL concentration)

LING 405-4 Phonological Theories

LING 408-4 Syntactic Theory

LING 415-3 Sociolinguistics

LING 445-4 Introduction to Psycholinguistics

In each concentration students are required to take 3-7 additional credit hours beyond these core requirements. The 3-7 hours vary according to the concentration. Among the requirements and electives are the following:

TEFL/TESL: Theory and Methods in EFL/ESL, Innovative Methods, Notional/Functional Syllabus, Language Testing, Materials Preparation.

PHONOLOGY: Phonology Seminar, Acoustic Phonetics, Contrastive Linguistics, English Phonology.

SYNTAX/SEMANTICS: Syntax Seminar, Language Families, Structure of the English Verb, Stylistics.

PSYCHOLINGUISTICS: Second Language Acquisition, Psycholinguistics Seminar, Language and Cognition, Developmental Psychology.

LANGUAGE VARIATION: Historical Linguistics, Sociolinguistics Seminar, Dialectology, Language Planning, Pidgins and Creoles.

Electives may be selected from courses offered within the department, or from appropriate offerings from other units (e.g., anthropology, communication disorders and sciences, computer science, education, English, foreign languages and literatures, philosophy, and speech communication psychology). Where appropriate, students are encouraged to include courses in research methodology,

statistics, and other empirical research techniques. Students are encouraged to attend summer institutes sponsored by the Linguistic Society of America or the international TESOL organization; credit will be allowed for course work successfully completed.

A thesis is required for the M.A. degree with a major in applied linguistics. Work on the required thesis may be counted for from 3 to 6 credit hours in this degree program. The student, in consultation with a graduate adviser, shall propose a topic and a thesis committee consisting of a chair and 2 other faculty members to serve as the thesis committee; the executive committee of the department must approve the topic and structure of the thesis committee. The chair is to be a member of the graduate faculty of the Department of Linguistics. One or both of the other committee members may be from outside the department. In addition to the 2 copies required by the Graduate School and any requested by committee members, the student must submit a copy of the thesis to the department.

Candidates for this M.A. degree must have current proficiency in a language other than English; this may be native proficiency or the equivalent of the proficiency expected after 3 academic years of course work. Such proficiency is demonstrated by obtaining at least a grade of *B* in the appropriate FL 488b course or by obtaining a score of at least 500 on any option of the Graduate School Foreign Language Test given by the Educational Testing Service.

Manufacturing Systems

Master of Science in Manufacturing Systems

Graduate work leading to a Master of Science degree in manufacturing systems is offered by the College of Engineering and Technology. The objective of the program is to develop manufacturing professionals who can design and implement modern manufacturing systems to increase productivity and improve product quality. Course offerings and research are available in manufacturing processes and control, quality control, and computer applications. The program provides advanced education for students with baccalaureate degrees in technology and also an excellent continuing education opportunity for individuals with technical degrees who wish to expand their education in the area of manufacturing systems.

Admission

Candidates for this program must be accepted by the Graduate School and the Department of Technology. Candidates should possess a bachelor's degree with a major in a technical area and have a GPA of no less than 3.0/4.0. A student whose undergraduate training is deficient may be required to take additional courses to compensate for deficiencies identified by the technology graduate program committee.

Program Requirements

The program in the thesis option requires a minimum of 30 semester hours of acceptable graduate credit, 18 semester hours of which is in manufacturing systems.

Students will complete a master's thesis, having 6 semester hours of credit, and be required to pass a comprehensive examination covering all of the student's graduate work and thesis.

Within the 30 semester hour requirement, students must complete the following core courses or their equivalents:

MATH 458-3 Statistical Methods in Business
MFGS 510-3 Recent Advances in Quality Assurance
MFGS 520-3 Computer-Aided Manufacturing II
MFGS 540-3 Product Reliability Theory

MFGS 560-3 Automated Factory Technology

A program of study including the above required courses (15 semester hours), the master's thesis (6 semester hours), and the remaining 9 semester hours will be selected by the graduate adviser and the student.

If a student prefers the non-thesis option, a minimum of 36 semester hours of acceptable graduate credit including the 15 semester hours of core courses is required. The student is expected to take at least 21 semester hours within the major department including no more than 3 semester hours of MFGS 592 to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination.

Each student will select a minimum of 3 technology graduate faculty members to serve as a graduate committee, subject to approval of the director of the graduate program. The committee will:

1. approve the student's program of study,
2. approve the student's research paper topic,
3. approve the completed research paper, and
4. administer and approve the written comprehensive examination.

Additional Information

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the College of Engineering and Technology or from the chair of the department.

Mathematics

Graduate work in mathematics is offered leading to the Master of Science, Master of Arts, and Doctor of Philosophy degrees in mathematics and the Master of Science degree in statistics. Students interested in the teaching of mathematics may select a minor concentration in education within the Master of Science degree in mathematics. Minor work for graduate degrees in other fields, which allow for a minor, is also offered.

Acceptance for graduate study in mathematics and subsequent continuation in the graduate program are at the discretion of the Department of Mathematics, provided that the student has been admitted to the Graduate School and meets the retention standards of the Graduate School. In addition to general rules, regulations, and requirements of the Graduate School, the following specific requirements pertain to the degrees available in mathematics.

Master of Science Degree in Mathematics

Students will be considered for acceptance into the M.S. degree in mathematics program if they have completed an undergraduate major in mathematics or a strong undergraduate minor in mathematics together with a major in a closely related discipline.

Once accepted, the requirements are as follows:

1. The candidate must complete a total of at least 30 semester hours of graduate credit of which at least 15 must be at the 500 level and at least 21 must be in courses (exclusive of 400, 417, 511, 512, 513) offered by the Department of Mathematics. A minor concentration may be taken outside of the department if approved by the graduate adviser. A minor concentration of up to 9 hours chosen from MATH 511, 513 or from the Department of Curriculum and Instruction will be allowed for candidates interested in mathematics education.
2. The candidate's program must include at least one 400- or 500-level course from each of 4 of the following areas: (1) pure and applied algebra; (2) pure analysis; (3) applied analysis; (4) geometry and topology; (5) probability and

statistics. This requirement may be met in whole or in part by means of equivalent courses taken elsewhere prior to acceptance for graduate study in the department.

3. The candidate must attend at least 10 departmental colloquia.
4. The candidate must prepare a research paper or thesis (3 hours credit in MATH 595 or 599) under the supervision of a research adviser and two other faculty members from the department. This committee will be appointed by the graduate adviser after consultation with all those involved.
5. The candidate must demonstrate satisfactory performance on a final oral examination covering the graduate course work and the research paper or thesis. This examination will be conducted by the 3 members of the candidate's committee and moderated by the research adviser. The student will pass the examination if the research adviser and at least 1 of the other 2 committee members so agree.

Master of Science Degree in Statistics

Students will be considered for acceptance into the M.S. degree in statistics program if they have completed an undergraduate major in either statistics or mathematics or a strong undergraduate minor in mathematics together with a major in a closely related discipline.

Once accepted, the requirements are as follows:

1. The candidate must complete a total of at least 30 semester hours of graduate credit of which at least 15 must be of the 500 level, at least 21 must be in courses offered by the Department of Mathematics, and at least 6 in an approved minor area outside the department.
2. The candidate's program must include:
 - a. In mathematics: 452 or 501, and at least one course in applied analysis (e.g., 406, 409, 450, 455, 475a,b).
 - b. In statistical theory: 480 or 483, and 580.
 - c. In statistical methods: 484 and at least 3 hours chosen from 473, 485, or 582. This requirement may be met in whole or in part by means of equivalent courses taken elsewhere prior to acceptance for graduate study in the department.
3. The candidate must demonstrate a proficiency in computer programming. This requirement may be met by passing with a grade of *B* or better CS 202 and either CS 220 or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been appointed by the graduate adviser.
4. The candidate must attend at least 10 departmental colloquia.
5. The candidate must prepare a research paper or thesis (3 hours credit in MATH 595 or 599) under the supervision of a research adviser and two other faculty members from the department. This committee will be appointed by the graduate adviser after consultation with all those involved.
6. The candidate must demonstrate satisfactory performance on a final oral examination covering the graduate course work and the research paper or thesis. This examination will be given by the 3 members of the candidate's committee and chaired by the research adviser.

Master of Arts Degree in Mathematics

Students will be considered for acceptance into the M.A. degree in mathematics program if they have completed with distinction the equivalent of a strong undergraduate major in mathematics. Once accepted, the requirements are as follows:

1. The candidate must complete a total of 30 semester hours of graduate level mathematics courses of which at least 15 must be at the 500 level.
2. The candidate must complete with a grade of *B* or better each of the courses MATH 419, 421, 433, 452, and at least 3 of the courses MATH 501, 519, 530,

555. This requirement may be met in whole or in part by means of equivalent courses taken elsewhere.

3. The candidate must demonstrate the ability to read mathematical literature in French, German, or Russian. This may be certified by passing with a grade of *B* or better the research tool course 488 offered by the Department of Foreign Languages and Literatures, by passing with a score of 465 or better an examination given by the Educational Testing Service of Princeton, NJ, or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been approved by the graduate adviser.

4. The candidate must attend at least 10 departmental colloquia.

5. The candidate must prepare a thesis (3 hours credit in MATH 599) under the supervision of a thesis adviser and 2 other faculty members from the department. This committee will be appointed by the graduate adviser after consultation with all those involved.

6. The candidate must demonstrate satisfactory performance on a final oral examination covering the graduate course work and the thesis. This examination will be given by the 3 members of the candidate's committee and chaired by the thesis adviser. The student will pass the examination if the thesis adviser and at least 1 of the other 2 committee members so agree.

Doctor of Philosophy Degree

Students will be considered for acceptance into the doctoral program if they have completed with distinction a graduate program comparable to that required for a master's degree in mathematics, statistics, or computer science at SIUC. Additional evidence of outstanding scholarly ability or achievement (e.g., a high score on the advanced section of the Graduate Record Examination or published research papers of high quality) will lend strength to the application.

Once admitted, the requirements are as follows:

1. The candidate must pass the departmental qualifying examination by the end of the February following the second fall semester in the doctoral program. This qualifying examination, which is given twice annually in February and September, covers 3 areas each of which is commensurate with a regularly scheduled 500 level graduate course at SIUC. After consultation with the graduate adviser candidates will choose the 3 areas over which they are to be examined, with 2 of 3 chosen from MATH 501, 520, 530, 555, 580. The third area normally corresponds to another regularly scheduled 500 level mathematics course but with the approval of the graduate adviser the third area may be chosen from a related field outside the department. A candidate who fails the qualifying examination within the allotted time will be dropped from the doctoral program.
2. The candidate must demonstrate competence with two research tools. The ability to read mathematics in any one of the languages French, German, or Russian serves as a tool. This may be certified by passing with a grade of *B* or better the research tool course 488 offered by the Department of Foreign Languages and Literatures, by passing with a score of 465 or better an examination given by the Educational Testing Service of Princeton, NJ, or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been appointed by the graduate adviser. A proficiency in computer programming will also serve as a research tool. This may be certified by passing with a grade of *B* or better CS 202 and either CS 204 or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been appointed by the graduate adviser.
3. The candidate must complete a major (12 hours) and two minors (6 hours each) chosen from the following list: algebra, analysis, applied mathematics, combinatorics, differential equations, number theory, numerical analysis,

probability and statistics, topology, and geometry. The course work in the major and minor areas must be at the 500 level and exclusive of the courses used to satisfy the qualifying exam.

4. The candidate must attend at least 20 departmental colloquia.
5. The candidate must file a request with the graduate adviser to appoint a dissertation committee to supervise the remaining doctoral work. This committee shall consist of 5 members with the candidate's dissertation adviser as chair. At least one member of the committee must represent each of the minor areas, and the dissertation adviser and one other member will represent the major area. One member of the committee will be chosen from outside of the department. This committee will be appointed by the graduate adviser after consultation with the candidate, the proposed dissertation adviser, the department chair, and the other faculty members involved.
6. The candidate must pass a preliminary examination over the major and minor areas. This examination will normally be given after satisfying the research tools requirement and within 18 months after passing the qualifying examination. The preliminary examination will consist of a written examination over the major area and an oral examination over the major and the two minor areas. This examination will be prepared, administered, and evaluated by the dissertation committee. Any member of the graduate faculty may attend the oral portion of the preliminary examination and (at the discretion of the committee chair) question the candidate. The candidate will pass the preliminary examination provided that 4 members of the committee including the chair so agree. A report on the examination will be included with the candidate's official academic records. In the event that the candidate's performance is unsatisfactory, the committee as a whole shall decide on the time and content of an appropriate re-examination.

In unusual circumstances a candidate who has passed the preliminary examination may wish to change the major area or dissertation adviser. This will be allowed if the graduate adviser and department chair so agree in which case the dissertation committee will be reconstituted in an appropriate manner. The revised committee may then prescribe additional course work and require the candidate to retake the preliminary examination.

7. The candidate must be officially admitted to candidacy for the Ph.D. degree. This will be done after all of the above requirements have been met.
8. The candidate must complete a dissertation (representing at least 24 hours in MATH 600) under the supervision of the candidate's dissertation adviser. The dissertation adviser and the other 4 members of the dissertation committee will evaluate the quality of the completed work which must conform to high literary and scholastic standards and constitute an original and publishable contribution to mathematics. A final oral examination will be conducted by the dissertation committee. During this examination the candidate will first present the major results of the dissertation and then respond to questions. Any member of the University graduate faculty may attend and (at the discretion of the dissertation adviser) ask related questions. The dissertation will be accepted provided the dissertation adviser and at least 3 of the other 4 members of the committee so agree.

Practicum. Every graduate student in mathematics is expected to develop the ability to communicate mathematical concepts orally in a professional environment. In keeping with this requirement, the graduate adviser will assign to each graduate student a suitable professional duty (e.g., participation in a research seminar, teaching an undergraduate class under faculty supervision, conducting help sessions for undergraduate students, serving as a team member on a research project) each semester of enrollment in one of the four graduate degree programs offered by the department.

Microbiology

The Department of Microbiology offers graduate work leading to the Master of Arts and Doctor of Philosophy degrees in microbiology. The programs are designed to provide advanced training in bacteriology, genetics, immunology, microbial physiology, molecular biology, and virology. Both programs involve in-depth research.

Admission, Advisement, and General Requirements

Prospective graduate students must submit 2 separate application forms, 1 for the Graduate School and the other for the Department of Microbiology. Graduate Record Examination (GRE) scores and 3 letters of recommendation are required as part of the departmental application.

Prerequisites for graduate training in microbiology include the equivalent of an undergraduate major in one of the biological sciences plus one year each of organic chemistry, physics, and suitable university level mathematics. Deficiencies in these requirements must be made up early in graduate training. In addition, students without a microbiology background will be required to take Microbiology 301 and obtain a grade of at least *B*, or pass an equivalent proficiency examination with a grade of 80% or better during the first week of the entering semester.

Admission to the master's degree program requires a minimum grade point average (GPA) of 2.70 ($A = 4.00$) on all undergraduate work. Selected students can be admitted directly to the doctoral program through the Ph.D. accelerated entry option. For all other students admission to the doctoral program requires a master's degree or its equivalent and a minimum GPA of 3.25 in all graduate course work. All admissions are subject to final approval by the department.

The departmental graduate adviser will assist each student with the initial planning of a program of study, including required courses, anticipated dates for fulfillment of specified requirements, etc. The adviser will also organize and supervise MICRO 501, Preprofessional Training, a one hour course required of all incoming microbiology graduate students. Similarly the adviser will also assist the student in arranging for a graduate faculty advisory committee and its chair to assume the continuing responsibility of planning the program of study and directing the research project for the degree.

Ph.D. Accelerated Entry Option

The Department of Microbiology offers the Ph.D. accelerated entry option to graduate students who have made an early commitment to a doctoral degree and meet certain criteria. At the end of two semesters of studies at the master's level, the graduate student's advisory and research (thesis) committee will review the student's credentials in order to establish eligibility to enter this program. The student's committee then has the option to recommend continuation in the master's program, or to approve application to enter the doctoral program.

The student's advisory and research (thesis) committee must establish that the student is prepared and able to conduct research at the doctoral level. This can be established by criteria such as seminars or other presentation of a research proposal. Further the student must have a GPA of 3.50 in all graduate course work, exclusive of research, special topics, etc., and letters of reference attesting to the student's outstanding ability and potential to perform doctoral research.

Upon approval of the student's eligibility by the department, the chair will prepare a written review of the student's qualifications for entry into this option. This must be submitted to the Graduate School for waiver of a master's degree or master's equivalency before entry into the doctoral program.

A student admitted to the doctoral program under this option is subject to all

retention and exit requirements for the Ph.D. program including residency, examinations, GPA, dissertations, and all applicable time limits.

Master's Degree

Each candidate for the master's degree is required to complete 30 semester hours of acceptable graduate credit, in addition to MICRO 501 including a minimum of 8 hours of thesis and research credit. The student is required to pass a comprehensive examination in microbiology and the thesis topic, and must present an approved thesis based on a laboratory research problem. Most students require two years to complete the work for a master's degree.

At least 15 of the 30 semester hours must be in microbiology courses numbered 500 or above. Within the 15 semester hours of 500 level credit, each student must successfully complete 8 semester hours of credit selected from departmental courses numbered 504, 520, 530, 542, 543, 551, 552, 553, and 562, taken once. The remaining credit hour requirements may be elected from the 400- and 500-level courses in the department or other departments with the approval of the graduate adviser. All students are required to enroll in MICRO 500 (seminar) for credit in each semester they are registered up to a maximum of four semesters.

Copies of the draft thesis must be submitted to the advisory committee and the department chair at least 6 weeks before commencement. The approved thesis, in final form, must be submitted to the dean of the Graduate School at least 3 weeks before commencement.

The department does grant the master's equivalency on the basis of a comprehensive final examination administered by the advisory committee and a research paper. The granting of the master's equivalency does not confer admission to the Ph.D. program. Students wishing to take the master's equivalency should consult with their research adviser, the graduate adviser, and the department chair.

Doctoral Degree

Each prospective candidate for the doctorate is required to complete a minimum of 24 semester hours of dissertation credit, satisfy the course requirements, pass the qualifying examination, write and defend an acceptable dissertation based on a laboratory research problem, and meet the Graduate School residency requirements after admission to the doctoral program and before admission to candidacy.

All students will be expected to take a one year sequence in biochemistry (CHEM 451a and b, or its equivalent). In addition, all students will be expected to demonstrate a mastery of the fundamentals of the several fields included in the discipline of microbiology. This requirement will be achieved by completing 3 of the following: 520, 542, 543, 551, 553, and 562 or 2 of these and a non-prerequisite 400-level lecture course. Course equivalency will be decided by the department graduate adviser, the faculty member in charge of the relevant course, and the department chair. The GPA attained in these courses must be at least 3.25.

During their first two years in the graduate program all students must enroll in MICRO 500 (seminar) for credit every semester. Advanced students are expected to attend all seminars but need not enroll.

The student is eligible to take the preliminary examination after completing the course requirements. After passing the preliminary exam and meeting the Graduate School residency requirements, the student is advanced to candidacy for the doctorate. The preliminary exam shall be administered as follows.

An approved student advisory committee (5 members of the graduate faculty) will prepare and administer a written preliminary exam covering several phases of microbiology, with particular emphasis in the area of concentration declared. This declaration will be done by means of a prospectus of a dissertation containing a proposal for the dissertation research, biographical information on the candidate, and a list of courses taken during the candidate's graduate program. The prospectus shall be in the hands of the committee members at least 14 days prior

to the date of the examination. Upon satisfactory completion of the written exam the candidate will meet with the committee as a whole and discuss the prospectus in detail. At this time the committee may ask in depth questions about the research project or other phases of microbiology particularly relevant to the candidate's research. A written exam score of at least 80% is required before a student can proceed to the oral portion of the preliminary exam, and at least 4 of the 5 committee members must judge the oral performance acceptable for a student to pass the preliminary exam overall. In the event that either the written or oral preliminary exam is failed, a student may request only one re-examination.

The Ph.D. preliminary exam (both written and oral portions) must be completed within 30 months of the date of entrance into the Ph.D. degree program.

Students working towards the doctoral degree should consider the following steps applicable to the dissertation.

1. The student and the major professor of the advisory committee determine the general nature of the research problem.
2. After formulation, the problem should be discussed with the advisory committee before extensive work is done. A discussion of the problem may be presented in a departmental seminar.
3. Periodic meetings of the student with the advisory committee are encouraged.
4. Copies of the draft dissertation should be available to the advisory committee at least 2 months prior to the deadline established by the Graduate School. The dissertation must be defended by the student in a public oral examination. The approved completed dissertation is transmitted to the dean of the Graduate School.

Mining (Coal Extraction and Utilization) Engineering

Department of Mining Engineering

The mining engineering department at SIUC is a young and growing department in the College of Engineering and Technology. The department presently offers a four-year Bachelor of Science degree major in mining engineering and a graduate program leading to a Master of Science degree (coal extraction and utilization) major in mining engineering. It also participates in a college-wide program in the Doctor of Philosophy degree in engineering science. The current enrollments in the undergraduate and graduate programs are 30 and 22, with increases in undergraduate enrollment expected to level off at about 120-150 students.

Current research in the department emphasizes 4 areas: rock mechanics and strata control, mine planning and design in surface and underground coal mines, mine reclamation, and coal preparation. Ongoing and completed projects in these areas include mine subsidence in room-and-pillar mining, pre-mining investigations to delineate ground instability problems in advance of mining, effects of moisture absorption and swelling on strata stability in coal mines, the effect of moisture on anchorage capacity of roof bolts, development of pin-set bolting concept, remote control of backfilling in abandoned room-and-pillar mines, industrial engineering studies of mined land reclamation, integrated mining and reclamation concepts, production potential of novel underground mining systems, model studies of air flow in multiple entrees, removal of pyritic sulfur from coal using flotation, and recovery of coal from refuse and slurry ponds.

The department is equipped with modern laboratories in the areas of rock mechanics, coal preparation, and mine ventilation and provides excellent opportunities for research. The University Coal Extraction and Utilization Research Center is located on campus and assists researchers in developing research funding sources. Excellent opportunities exist for graduate students to work at the center during summers.

A graduate program leading to a Master of Science degree major in mining (coal extraction and utilization) engineering is available in the Department of Mining Engineering for students who are interested in coal extraction and utilization. The program is administered academically by a program committee. Course offerings and research activities include the following.

Coal Extraction—mine ventilation and environment control, mine extraction systems, strata control and rock mechanics, mine management, design of mine machinery.

Coal Utilization—coal preparation processes, coal conversion and combustion processes.

Environmental Effects—mine-waste management, emission control engineering, waste-heat management, mining and the environment.

Basic Science Related to Coal Mining—coal geology, hydrology, coal chemistry.

Admission

Students seeking admission to the graduate program in mining engineering must meet the admission standards set by the Graduate School. In addition, a bachelor's degree major in engineering or its equivalent is required for admission into the program. A student whose undergraduate training is deficient may be required by the program committee to make up course work without graduate credit.

Requirements

A graduate student in mining engineering is required to develop a program of study with a graduate adviser and establish a graduate committee of at least 3 members at the earliest possible date. The graduate committee must be approved by the mining engineering program committee. For a student who wishes to complete the requirements of the master's degree with a thesis, a minimum of 30 semester hours of acceptable graduate credit is required. Of this total, 18 semester hours must be earned in the mining engineering major. Each candidate is also required to pass a comprehensive examination covering all of the student's graduate work including thesis.

If a student prefers the non-thesis option, a minimum of 36 semester hours of acceptable graduate credit is required. The student is expected to take at least 21 semester hours in the mining engineering major including no more than 3 semester hours of the appropriate Mining Engineering 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination. The graduate committee of a student who is in the non-thesis option will:

1. Approve the student's program of study,
2. Approve the student's research paper topic,
3. Approve the completed research paper,
4. Administer and approve the written comprehensive examination.

Assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the Department of Mining Engineering.

Molecular Science

Molecular science is an interdisciplinary Ph.D. program designed to provide advanced education for those students who desire to pursue scientific careers which require understanding at the molecular level. The program draws its faculty from departments in the College of Science, the College of Engineering and Technology, the College of Liberal Arts, and the School of Medicine. This faculty offers a variety of interdisciplinary areas of research. Examples of such

areas are molecular biology, biophysics, geophysics, geochemistry, coal science, chemical physics, catalysis, engineering science, and applied mathematics.

Students may enter the program with a master's degree from diverse educational backgrounds including the physical sciences, engineering, the life sciences, and mathematics. During the initial phase of study it is expected that most students will take some undergraduate courses in the areas of mathematics, physics, chemistry, and biology to expand their basic knowledge to the required breadth. Then in their second phase of study, each student will take 3 preliminary examinations in the graduate breadth areas of their choice. Additionally, a written examination will be required for each student in their own specialty area, and this will be followed by an oral examination which will include the 3 breadth areas as well as the area of emphasis. Passing these preliminary examinations and a research tool requirement qualify a student for admission for candidacy.

In their third and final phase, candidates for the Ph.D. degree must complete their research, write their dissertation, and pass an open oral examination on their dissertation work.

Because students enter the program from different backgrounds, it is difficult to predict the time required for each student to complete each phase. In practice the phases overlap. Phases one and two occur in the first year with phase two continuing through the second year. Research usually starts during the second year. A well prepared student might complete the program in 3 years; however, 4 years is a reasonable average time to expect most students to complete the program.

Admission to Graduate Study

Admission to the Ph.D. program with a major in molecular science requires a master's degree or its equivalent in the physical sciences, life sciences, mathematics, or engineering. In addition, the student must have a grade point average of at least 3.25 in graduate courses.

Students holding the baccalaureate degree in the above listed fields are admissible to graduate study in preparation for subsequent admission to the molecular science program. They may join the program after either obtaining a master's degree or its equivalent. Application for master's equivalency requires (a) completion of 30 semester hours of acceptable graduate credit, at least 15 hours of which must be courses numbered 500 or above, and (b) completion of an approved research paper which demonstrates evidence of the student's knowledge of research techniques, and which is based on a special research project. In addition to the other subject matter they may have studied, students must have the background listing below (SIUC equivalency courses are listed in parentheses):

- Mathematics—through differential equations (MATH 150, 250, and 305).
- Chemistry—freshman chemistry, one semester of organic chemistry, and one semester of either physical chemistry or the third semester of university physics (CHEM 222AB-8, or 224-5 and 225-2 plus 340-4 and either 460-3, or PHYS 205C-3).
- Physics—two semesters of sophomore level physics and either the third semester of university physics or physical chemistry (PHYS 203AB-6, or 205AB-6 plus 205C-3, or CHEM 460-3).
- Biology—a minimum of two semesters beyond General Studies biology (either two courses chosen from BOT 335, CHEM 352, MICRO 301, MICRO 302, PSYCH 312, and ZOOL 309 or three courses from BIOL 305, 306, 307, 308, 309, and PHSL 210).

Since the program in molecular science is interdisciplinary and broadly based, it is anticipated that many students entering the program will not have the breadth indicated above. This breadth may be attained by taking the regularly offered courses listed in parentheses. The program chair will determine course equivalencies between SIUC and other schools.

Retention in the Program

After completion of phase one, the performance of each student will be evaluated by the executive committee. The executive committee will make a decision on the continuation in the program for each student. Affirmative action by the committee certifies the student to be qualified to undertake further study in molecular science.

Admission to Candidacy for Ph.D.

After satisfying the breadth requirements and completing the research tool requirement, the student may seek admission to candidacy for the Ph.D. degree major in molecular science. This may be accomplished by passing 3 preliminary breadth examinations from the following list and by passing a fourth preliminary examination in the student's area of emphasis. The nature of these examinations is described in the following paragraphs.

The student will choose 3 breadth areas from the following list of 8 broad preliminary examination areas. Each of these breadth areas is described by graduate courses. The student may pass each breadth area in 2 ways: (1) by passing 2 or more of the designated courses with a grade average of at least 3.5, or (2) by passing a comprehensive written examination in the breadth area.

Breadth Areas.

Quantum Theory and Molecular Spectroscopy.

Statistical Mechanics and Thermodynamics.

Engineering Sciences I: Electrical Sciences and Systems or Fluid and Solid Sciences.

Engineering Sciences II: Transfer Processes or Material Sciences.

Applied Mathematics.

Biochemistry or Organic Chemistry.

Biophysics.

Molecular Biology.

The chair of the molecular science program will appoint faculty members to design, administer, and evaluate the preliminary examinations in the breadth areas.

The student and the student's dissertation adviser will designate an area of emphasis. The preliminary examination in this specialty area will be written and will be followed by an oral examination which will also include the 3 breadth areas. The written examination will be composed under the direction of the student's dissertation adviser. The oral examination will be conducted by the student's committee. The purpose of this last oral examination is to establish that the student is, in fact, a Ph.D. candidate.

Failure by the student to pass any preliminary examination will lead to a review of the student's status by the executive committee and the student's committee. They may decide (1) to allow the student to retake only the failed examinations, (2) to require the student to retake both the failed examinations as well as the examinations in which the student demonstrates weakness to the extent that the performance was considered border line pass, or (3) to terminate the student. In any case, no student will be allowed more than 2 tries at passing any one preliminary examination in any area. Additionally, permission to choose a different area after failure in one must be approved by both the executive committee and the student's committee. Such permission may be approved only once.

The research tool requirement is satisfied either by passing the ETS examination in French, German, or Russian or by demonstrating competence in computer programming.

Requirements for the Ph.D. Degree with a Major in Molecular Science. A candi-

date for the Ph.D. degree must meet the general requirements as set forth by the Graduate School.

Advisement Procedures

The program chair will serve as graduate adviser for the program. Each student is expected to consult the chair in planning the initial part of the graduate program in developing a course of study in preparation for the preliminary examination. The student must also request approval for a dissertation adviser no later than 3 semesters after being admitted to the program. The dissertation adviser will recommend a Ph.D. committee which the program chair will submit for approval by the dean of the Graduate School. The student's committee will work out with the student and monitor a scheduled program for completion of the Ph.D. degree.

Music

The School of Music faculty numbers twenty-seven full-time positions. Within its ranks are to be found many outstanding performers and educators, representing a broad diversification of background and talent. Faculty members present many solo and small ensemble performances, as well as clinics and workshops, during the school year. Sixteen members of the faculty hold doctorates or its equivalent.

Library Facilities

In addition to Morris Library, the School of Music has its own recording and score library, including modern stereo listening facilities, cassettes, and cassette decks for self-instruction in ear training and music literature, some 1600 LP recordings and tapes, over 1100 scores, many in multiple copies, and 94 books and reference works. The self-instruction center in Morris Library provides tape recordings of theory and literature for student use.

Musical Organizations

A wide variety of performing opportunities is available, including the University Symphony, symphonic band, wind ensemble, jazz ensemble, Marching Salukis, brass ensemble, guitar ensemble, percussion ensemble, choral union, concert choir, chamber choir, and vocal jazz ensemble. The Marjorie Lawrence Opera Workshop presents one full opera production each year in addition to several programs of small operas and operatic excerpts. The Summer Music Theater presents two full-scale musicals during the summer session.

Musical Performances

Some 130 School of Music programs are presented each year, plus Southern Illinois Concert Series and Celebrity Series appearances by well-known concert artists. A program booklet for further details concerning concert activity is available through the School of Music.

Other Resources

A fifty-eight rank Reuter pipe organ, the principal instrument for recitals and teaching, is installed in Shryock Auditorium. Available for practicing are a four-rank Ott tracker organ, a six-rank Moeller, and a four-rank Wicks. Eighty-five pianos, including twenty-two in practice rooms, an eighteen-unit electronic piano lab, and a full complement of band and orchestral instruments are available.

Graduate Assistantship and Fellowship Applications

Any student seeking a master's degree may apply to the coordinator of graduate studies in music for a graduate assistantship. An undergraduate overall grade-

point average of 2.8 ($A = 4$ points) is required for consideration. The assignment of assistantships, for those who are eligible, is based upon School of Music needs and student qualifications. A student with an overall grade-point average of 3.5 or better is eligible to apply for a graduate fellowship involving no School of Music assignment. The School of Music offers six programs leading to the Master of Music degree. Each master's degree requires a minimum total of 30 credits, with a minimum total of 15 credits at the 500 level. Students enrolled in a program leading to a Ph.D. degree major in education, with a concentration in curriculum and instruction education, may choose the elective portion of their programs from graduate courses offered in the School of Music.

Master of Music Degree Standard Curricula

MUSIC HISTORY AND LITERATURE CONCENTRATION

Majors complete MUS 501-3; 502-4 (2,2); 2 credits (1,1) from 566; 6 credits selected from 475, 476, 477, 573, 574, or 578; 599-6; 6 credits in music history-literature electives; 3 elective credits in non-music history-literature courses. In addition to the general requirements for graduation, music history/literature majors must have successfully completed two years of a foreign language (preferably French or German), at the undergraduate level, or pass 388-488 (German or French) as a research tool with a grade of *B* or higher.

MUSIC THEORY AND COMPOSITION CONCENTRATION

Majors complete MUS 501-3; 502-4 (2,2); 545-3; 3 credits from the 470 or 570 series; 480-4 (580-4 must be completed by composition majors); 2 credits (1,1) selected from 566; 599-6; 5 credits of approved music electives in theory-composition, history-literature, conducting, or performance.

PERFORMANCE CONCENTRATION

Majors complete MUS 501-3; 502a or b (2); 5 credits from 461, 482, or 470 or 570 series; 8 credits in 540 (440 if specializing in pedagogy); 2 credits from 566, 567, or 568 (or other electives if keyboard major); 6 credits in 595 and 598 (recital and document); 4 credits in non-performing music elective. If specializing in conducting, majors must complete MUS 501-3; 502-4 (2,2); 556-4 (2,2); 3-6 credits from the 470 or 570 series; 2-4 credits in 440; 2 credits from 566 (1,1) or other electives if keyboard major; 6 credits in 595 and 598 (recital and document); 3 credits in music electives.

OPERA/MUSIC THEATER CONCENTRATION

Opera and music theater majors must have an undergraduate degree major in music with appropriate experience in opera or music theater, or in theater with additional music study sufficient to qualify in performance, theory, and history of music. Core courses (required) include MUS 468 (2-4); 501 (3); 570 (3); 595 (2); 598 (4) or 599 (6) in lieu of 598 and 595. Also required are MUS 567 or 568 (1,1,1,1); and 6 credits from 440-540; 461; 472; 479c or 556. In addition, 6 hours of theater credits must be earned from THEA 402a,b; 403a,b, 404, 409, 412a,b, 413a,b, 415a,b, 417a,b, 432, 505, 513 (2,2), 517a,b, 530, or 522.

PIANO EDUCATION ARTS CONCENTRATION

Majors complete hours of credit in the following music courses: 3 credits in 501; 2 credits in 502a or b; 4 in 440 or 540; 4 credits in 498 and 2 credits in 595 or 4 (2,2) in 498 and 2 in 595 or 2 in 498 and 4 in 599; 2 in 483 (readings in piano pedagogy); 2 in 499 (graduate teaching practicum); 2 credits (1,1) from 566; 3 from approved music electives; and 6 hours from approved non-music courses (in fields of guidance and educational psychology, higher education, philosophy, and speech communication).

MUSIC EDUCATION CONCENTRATION

Majors complete MUS 501-3; 502a or b (2); 4-5 credits from 509, 578 or 503; 7-8 credits selected from music education courses; 2 credits (1,1) from 566; 5 credits elected from non-music education courses including at least one course from 410, 482, or the 470 or 570 series; 599-6 or 6 credits from 499 and 595; or 595 and 598.

General Information

Fees. Fees are not charged for individual instruction, practice rooms, or instrument lockers. Instruments are loaned without charge when needed. Student expenses for music, textbooks, and other incidental supplies are usually nominal.

Advisement. The graduate coordinator in music supervises the overall planning of the student's program and designates the document or thesis director.

Diagnostic tests in music theory and history are given during orientation at the beginning of the fall semester and must be taken by all students at the first opportunity after admission. The student with weaknesses in certain areas may be asked to take additional work in those areas. A student will be accepted as a performance major in the Master of Music degree program after satisfactory audition in person, either before admission or during orientation. A performance major may be conditionally accepted on the basis of a tape recording; but a student accepted conditionally may be asked to audition in person during orientation or during the first term of residence, and may be required to register at the 400 level in performance until approved by personal audition. Current brochures from various performance areas and the *Graduate Handbook in Music* describe the level of repertory expected, audition procedures, and diagnostic tests.

Ensemble Requirement. All graduate students are required to register for MUS 566 (MUS 567 or 568 may substitute for MUS 566 only for those students whose concentration is opera music theater) each semester of degree study (summers excepted). Participation is required each semester in one or more of the following: Marching Salukis, symphonic band, wind ensemble, symphony, choral union, concert choir, chamber singers, or guitar ensemble. In addition, students may elect participation in other regularly scheduled emphasis. Graduate assistants assigned ensemble accompanying must register for alternate ensemble for credit. Petitions for exceptions to the ensemble requirement must be made in writing and presented to the School of Music graduate committee for consideration.

Exceptions to Degree Requirements. Appropriate substitutions in the curriculum for the Master of Music degree may be made if recommended by the student's adviser and approved by the graduate committee in music. Students who expect to earn more than half of their credits during summer terms only, or by a combination of summer attendance and night classes, may similarly propose a sequence of course offerings, following the above curricular patterns as far as possible. All curricula must meet Graduate School requirements and be approved by the graduate committee in music. Special summer students changing plans and registering for more than one regular fall or spring semester will ordinarily follow the appropriate standard curriculum.

The Thesis, Document, and Research Paper. All master's degree candidates will complete either (1) a thesis, or (2) a large, original composition and document, or (3) a full recital performance and document.

No later than the beginning of the semester preceding the semester in which the student expects to graduate, the graduate coordinator, in consultation with the student, will designate a document or thesis director from the current list of

graduate faculty from whom a student has taken graduate level courses. The document or thesis director guides the student's choice of topic and is responsible for the progress and quality of the resulting work. The document director normally heads the student's orals committee. Before any work is begun on the thesis or document, the student submits a proposal, together with a selective bibliography where applicable and the reactions of the document or thesis director, to the coordinator of graduate studies in music for approval by the graduate committee. Changes of topic or of document director after initial approval must be approved by the music graduate committee.

Graduate Recital (598-4) is supervised by a jury of at least 3 members, headed by the student's instructor in performance. This jury approves the level of literature to be performed and acceptability of the performance by means of an audition in advance of the final performance.

Comprehensive Examinations. During the final semester of study, and after completion of the document or thesis, the student will take comprehensive examinations dealing with general areas of music and concentrations of music study, and, when appropriate, with the student's thesis or document. Application to take comprehensive examinations must be made at the beginning of the student's last semester of study. The examinations must be passed in time to meet Graduate School deadlines. Application for comprehensive examinations may not be made until all other requirements, with the exception of terminal-semester courses, for the degree have been satisfied. A failed section of the comprehensive examinations may be taken again in a following term.

The oral examination committee, appointed by the coordinator of graduate studies in music, is headed by the student's document or thesis director with two or more faculty members with whom the student has had graduate level classes, as requested by the student. If the student has scheduled 6 or more hours in a department other than music, a member of this department will be invited to serve on the examining committee. The examination committee will conduct the student's oral examination and will supply questions for the student's written examination.

Three copies of all theses, thesis-composition manuscripts, and tapes and documents must be submitted in final form to the music graduate office at least 5 weeks before the intended date of graduation, carrying the approval of all members of the student's graduation committee. The graduate coordinator will forward 1 copy of a student's document (2, if a thesis) to the Graduate School and retain 1 copy.

Pharmacology

Graduate courses of study leading to the Master of Science and Doctor of Philosophy degrees in pharmacology are offered by SIU School of Medicine, Department of Pharmacology. Course offerings in the graduate program have been designed so that graduate students may acquire a broad basic knowledge as well as research experience in different areas of pharmacology. Graduate students may choose from a diversity of specializations when selecting a research adviser and a research topic. Excellent, well-equipped research facilities are available on the Springfield and Carbondale campuses. Graduate courses in pharmacology may be taken as part of a program leading to degrees in physiology, biological sciences, or toward a teaching specialty in secondary or higher education. Courses in pharmacology are also available to senior medical students, residents, and other non-majors with selected subspecialties such as psychiatry, medicine, (neurology and cardiology) and certain surgical subspecialties.

GENERAL REQUIREMENTS FOR ADVANCED DEGREES IN PHARMACOLOGY

Admission

The applicant must first be admitted to the Graduate School. The application and transcript, if approved, are then transmitted by the Graduate School to the Department of Pharmacology.

To receive an advanced degree in pharmacology, students must fulfill the requirements of both the Graduate School and the pharmacology graduate program. Students entering the pharmacology graduate program are required to have a strong background in physiology and biochemistry. Deficiencies, if they exist, should be fulfilled in Carbondale before coming to Springfield to complete the program.

Each student should possess an undergraduate degree in one of the biological sciences. Students with undergraduate training in related areas, such as chemistry, physics, mathematics, computer science, psychology, or engineering are strongly encouraged to consider graduate work in pharmacology. All students must present certification of credit or its equivalent (earned either as an undergraduate or a graduate student) for the following in order to be eligible for admission to an advanced degree program.

- 1. Inorganic chemistry (2 semesters)
- 2. Organic chemistry (2 semesters)
- 3. Physics (2 semesters)
- 4. Mathematics (2 semesters)

Students may be admitted with deficiencies in the above areas, but must remedy these prior to obtaining an advanced degree.

Admission into the pharmacology graduate program requires an undergraduate grade point average (GPA) of 3.0 ($A = 4.0$) for admission into the master's program. A GPA of 3.25 ($A = 4.0$) on undergraduate work is required for the direct entry (post-baccalaureate degree) option into a doctoral program. A GPA of 3.25 ($A = 4.0$) in graduate level work is required for admission into a doctoral program from a post-master's or by the accelerated entry (from a master's program) option.

- In addition to the above general requirements, each applicant must submit:
- 1. Directly to the Graduate School: a completed application and original transcripts transmitted from each university or college attended by the applicant.
 - 2. To the Department of Pharmacology: a brief (300 to 600 words) typed statement of goals and ambitions indicating why the applicant wishes to do graduate work in pharmacology.
 - 3. Scores of the Graduate Record Examination (GRE) including scores on (a) the general and (b) one advanced section (biology or chemistry) taken within the past 12 months.
 - 4. Three letters of recommendation from faculty who know the applicant's potential, written on forms supplied by the Department of Pharmacology.
 - 5. International students must submit or request a copy of the TOEFL scores to be sent directly to the Graduate School. The Graduate School requires a score of 550 or better on the TOEFL.

Equivalent work completed at other institutions or in other collegiate units may be substituted for certain course requirements for graduate work in pharmacology if approval is obtained from the graduate school and the pharmacology graduate program committee.

Retention

All retention rules imposed by the Graduate School will be adhered to closely.

Master's Degree. An overall GPA of 3.0 ($A = 4.0$) in all graduate work in the

program is required for retention. Any grade below *B* in a pharmacology core course must be compensated for by retaking the course and earning an *A* or *B* grade.

Doctor of Philosophy Degree. An overall GPA of 3.0 ($A = 4.0$) in all graduate work in the program is required for retention. Any student who makes a grade below a *B* in a pharmacology core course will not be retained in the Ph.D. degree program of the Department of Pharmacology.

Financial Assistance

The pharmacology graduate program offers financial assistance to qualified applicants accepted into the program. Teaching assistantships, research assistantships, and departmental fellowships are available, for which application is made directly to the Department of Pharmacology. Information and application forms for scholarships and loans may be obtained through the program director. Time limits for receiving support are governed by the Graduate School.

Graduate students should be aware that renewal of support whether it be in the form of a teaching assistantship, research assistantship, or fellowship is contingent upon satisfactory evaluation of the student's performance and upon time limitations for support. Failure to meet the requirements in any or all of these areas may lead to termination of support. The evaluation considers both the performance of assigned duties pertaining to the graduate assistantship and on progress in course work and research.

CURRICULUM REQUIREMENTS COMMON TO THE MASTER'S AND PH.D. DEGREES IN PHARMACOLOGY

All graduate students are required to complete formal course work in 2 areas: (1) the program core courses and (2) electives. The program core courses include PHRM 500, Pharmacology Seminar, in which all graduate students are required to present and participate every fall and spring semester; PHRM 500a and b, Principles of Pharmacology; PHRM 551, Methods in Pharmacology; and 1 advanced course of 3 credit hours for a master's degree, or 2 advanced courses of 3 credit hours each for a doctoral degree. Maximum course work for full-time graduate students is 16 hours per semester; 12 hours is considered average. For a student with a half-time assistantship, 12 hours is the maximum, 6 hours is the minimum.

All graduate students must acquire appropriate research tools as required by the Graduate School and the graduate student's advisory and research committee. Master's students are encouraged, but not required, to attain competence in at least 1 research tool. Doctoral students are required to attain competence in at least 2 research tools. Requirements for a research tool may be satisfied by establishing proficiency in statistics, computer sciences, electronics, advanced mathematics, electron microscopy, foreign language (Russian, German, or French), or a technique which is acceptable to the student's advisory and research committee. This may be accomplished by formal training or it may be demonstrated in a manner acceptable to the graduate student's advisory and research committee.

An advisory system in pharmacology will help students in planning their program. Upon admission to the master's or doctoral program, students will be advised by the pharmacology graduate program director until a research adviser is chosen by the student. The programs outlined by students, their advisers, and advisory committees are subject to approval of the pharmacology graduate program committee. Students should select their research adviser no later than the end of their second (master's) and third (doctoral) semester in residence. The choice of adviser, and subsequently the advisory and research committee, is an important step and should be carefully considered.

As soon as a graduate student has selected a research adviser, a graduate research and advisory committee should be selected. The committee for a student

in the master's program will consist of a minimum of 4 members: the student's research adviser (chair), 2 faculty members from pharmacology and 1 faculty member from outside pharmacology. The committee for a student in the doctoral program will consist of a minimum of 5 members: the student's research adviser (chair), 3 faculty members from pharmacology, and 1 faculty member from outside pharmacology. Members of this committee should be able to contribute significantly to the area of the student's research program. The student's research adviser via the graduate program director and the chair of the Department of Pharmacology will request approval of this committee by the dean of the Graduate School. The chair of the Department of Pharmacology and the graduate program director are ex-officio members for all advisory committees upon which they are not already members.

REQUIREMENTS FOR ADVANCED DEGREES IN PHARMACOLOGY

Master of Science Degree in Pharmacology

GENERAL REQUIREMENTS

1. A minimum of 2 years of full-time study (1 year in residence) is required for a master's degree. At least 15 of these must be in 500 level courses, 6 of which may be PHRM 599. A thesis must be completed in the student's research area of interest with the approval of the thesis committee.
2. A total of 30 semester hours at the 400 and 500 level is required for a master's degree. At least 15 of these must be in 500 level courses, 6 of which may be PHRM 599. A thesis must be completed in the student's research area of interest with the approval of the thesis committee.
3. A master's student must satisfactorily complete at least 21 hours of graduate course work graded *A*, *B*, *C*. These hours must be in courses at the 400/500 level.
4. A written comprehensive examination must be passed with a grade of *B* or better. It will be prepared, conducted, and evaluated by the pharmacology graduate program committee and will be given each fall and spring semester. This examination will become a part of the student's permanent file.
5. Before significant research has begun, a thesis proposal is required. The thesis proposal will be presented in a pharmacology seminar. Immediately following the seminar, the proposal will be defended orally before the student's advisory and research committee. The cover sheet for graduate student thesis proposal must be signed by all members of the student's advisory and research committee and filed with the graduate program director.
6. The thesis is expected to be a competent, original research project carried out in a selected area under the research adviser's supervision. It should include a statement of the problem, an adequate review of literature, a careful analysis of results by whatever methods are appropriate, and an interpretation of the work by a significant source. The student must submit a preliminary draft of the thesis to the adviser at least 10 weeks prior to graduation. A corrected copy must be submitted to other members of the advisory and research committee not later than 8 weeks before graduation.
7. Results of the thesis research must be defended in a pharmacology seminar which must be announced at least one week in advance by sending out proper notices. Immediately following the seminar, an oral examination will be conducted by the student's advisory and research committee; and it will cover the thesis. Any member of the University community may attend this examination and may participate in the questioning and discussion, subject to reasonable time limitations imposed by the committee chair. Only committee members may vote or make recommendations concerning acceptance of the thesis and the oral examination.
8. The student will be recommended for the degree if members of the student's

advisory and research committee judge both the thesis and the performance at the oral examination to be satisfactory. Evaluation forms will be completed by the student's advisory and research committee. If approved, a thesis approval form will be completed, signed by the student's major adviser and the chair of the Department of Pharmacology, and transmitted to the Graduate School. The examination may be repeated once, at least 3 months after the first examination. A second failure will result in dismissal from the pharmacology graduate program.

9. Each student is required to have 6 credit hours of PHRM 599, Thesis Research. A student who has completed all course work and has registered for the minimum of thesis research hours required for the degree must register in PHRM 601, Continuing Enrollment, until completion of the degree.
10. It is the student's responsibility to give 2 appropriate unbound copies of the thesis to the Graduate School. One bound copy should be given to the graduate program director and 1 to the adviser at least 3 weeks prior to graduation.

REPRESENTATIVE SCHEDULING

Below is a representative schedule of the requirements for the master's degree in pharmacology. In addition to the core course requirements listed below, additional electives offered include: PHRM 565-2, Toxicology; PHRM 560-2, Geriatrics Pharmacology; and PHRM-1 to 24, Readings and Research in Pharmacology.

In Carbondale.

	Credits
Year 1	
Fall Semester	
PHSL 410a Mammalian Physiology	5
CHEM 451a Biochemistry	3
PHSL 500 Advanced Seminar	1
Total	9
Spring Semester	
PHSL 410b Mammalian Physiology	5
CHEM 451b Biochemistry	3
PHSL 500 Advanced Seminar	1
Total	9

In Springfield.

Summer Semester	
PHRM 551 Methods in Pharmacolog	4
Total	4
Year 2	
Fall Semester, Choose Adviser and Formulate Thesis Committee	
PHRM 500a Principles of Pharmacology	4
PHRM 500b Principles of Pharmacology	4
PHRM 500 Seminar in Pharmacology	1
Total	9
Spring Semester, Thesis Proposal Defended Orally	
*PHRM 555 Cardiovascular Pharmacology	3
*PHRM 574 Neuropharmacology	3
PHRM 599 Thesis Research	3
PHRM 500 Seminar in Pharmacology	1
*Choice of One Advanced Course	
Summer Semester, Written Comprehensive Exam of Course Work	
PHRM 599 Thesis Research	3
Total	3

SUMMARY OF REQUIREMENTS

Achieve grade point average of at least a 3.0 (A = 4.0)

Completion of the research tools required by the thesis committee

Oral defense of thesis proposal

Comprehensive written exam of course work

Submission of thesis to adviser (10 weeks prior to graduation)

Corrected thesis to thesis committee (8 weeks prior to graduation)

Announcement of thesis defense (1 week prior notice)

Oral defense of thesis

Submission of approved thesis to Graduate School (2 copies), graduate program director (1 copy), and adviser (1 copy) 3 weeks prior to graduation

Submission of departmental clearance form

Doctor of Philosophy Degree in Pharmacology

GENERAL REQUIREMENTS

1. Students entering the doctoral program in pharmacology should present as minimum the requirements listed for the master's degree program. In addition it is strongly recommended that the doctoral student have completed calculus and physical chemistry.

Students entering the doctoral program in pharmacology may choose to be admitted under 1 of 3 options: the post-master's option, a direct entry (post-baccalaureate) option, or an accelerated entry (from a master's program) option.

a. The Post-Master's Entry Option is offered to the student who has excelled academically and plans to continue research and scholarly work in a chosen field. The Graduate School requires that the student meets all general requirements for admission and has a GPA of 3.25 ($A = 4.0$).

b. The Direct-Entry (Post-Baccalaureate) Option is offered to the outstanding post-baccalaureate student who has a high potential for independent doctoral level research, has clearly defined professional objectives, and fulfills all the general admission requirements of the doctoral program. To be admitted through the direct-entry option, the student must have the following.

- i. a cumulative undergraduate GPA of 3.25 ($A = 4.0$)

- ii. undergraduate course work in biology, chemistry, physics, and mathematics beyond the freshman level and an outstanding score on the Graduate Record Examination (GRE) on (a) the general part, (b) the advanced part in biology, and (c) the advanced part in chemistry, physics, or mathematics.

c. The Accelerated Entry (from a master's program) Option is designed for a student who makes an early commitment to a doctoral degree. This option may be recommended by the masters student's advisory and research committee after a review of the student's credentials and eligibility has been established. If severe deficiencies in grades or evaluation are present, however, recommendation for termination may be made. To be eligible for this option, the committee must establish:

- i. the student has attained a 3.25 ($A = 4.0$) GPA in graduate course work

- ii the student is prepared and able to conduct research at the doctoral level. This may be done through publications, presentations at meetings and seminars, or preparation and oral presentation of the research proposal.

- iii. the student has letters of reference attesting to the student's ability and potential to perform doctoral research.

Upon establishing the student's eligibility, the student's advisory and research committee will prepare a written review of the student's qualifications. Approval of the review must be given by the pharmacology graduate program committee and the chair of the Department of Pharmacology, who will then make recommendation to the Graduate School for waiver of the master's degree or master's equivalency before entry into the doctoral program.

2. The specific course work requirements for the Ph.D. degree will be established

- by the student's advisory and research committee in accordance with the requirements of the program. The Graduate School requires 24 semester hours of course work before making application to candidacy.
3. The Ph.D. degree may not be conferred less than 6 months nor more than 5 years after admission to candidacy, except upon approval of the dean of the Graduate School. The student is admitted to the Ph.D. degree candidacy after having completed the residency requirement, the research tool requirement, and the comprehensive written preliminary examination.
 4. A comprehensive written preliminary examination of course work must be passed with a grade of *B* or better. It will be prepared, conducted, and evaluated by the pharmacology graduate program committee and will be given each fall and spring semester. This examination will become a part of the student's permanent file. The preliminary examination may be repeated only once at least 3 months after the examination. Most course work should be completed prior to this examination, but it should precede the greater part of the dissertation research.
 5. Before significant research has begun, a dissertation proposal is required. The dissertation proposal will be presented in a pharmacology seminar. Immediately following this seminar, the proposal will be defended orally before the student's advisory and research committee. The cover sheet for graduate student dissertation proposal must be signed by all members of the student's advisory and research committee and filed with the graduate program director.
 6. The dissertation is expected to be a competent, original research project which will make a significant contribution to the body of scientific knowledge. As such, it should be of sufficient quality to merit publication in a peer-reviewed journal. It should include a statement of the problem, an adequate review of literature, a careful analysis of results by whatever methods are appropriate, and an interpretation of the work by a significant source.
 7. Admission to candidacy is granted by the dean of the Graduate School upon recommendation of the student's advisory and research committee after the student has fulfilled the residency requirement for the doctoral degree, passed the comprehensive written preliminary examination and met the research tool requirement. The candidate must fulfill all degree requirements within a five-year period after admission to candidacy, or may be required to take another preliminary examination and be admitted to candidacy a second time.
 8. After admission to candidacy, the student must complete 24 hours of dissertation credit, (PHRM 600), complete the research and the dissertation document. A student who has completed all formal course work, dissertation and candidacy credit requirements but has not completed and defended the dissertation must register for PHRM 601, Continuing Enrollment, until completion of the degree.
 9. A preliminary draft of the dissertation should be given to the adviser at least 10 weeks prior to graduation, a corrected copy should be submitted to other committee members no later than 8 weeks before graduation.
 10. Results of the dissertation research must be defended in a pharmacology seminar which must be announced at least one week in advance by sending out proper notice. Immediately following the pharmacology seminar, a final oral examination will be conducted covering the dissertation subject and other discipline related matters. Any member of the University community may attend the final oral examination and may participate in the questioning and discussion, subject to reasonable time limitations imposed by the committee chair. Only members of the committee may vote or make recommendations concerning acceptance of the dissertation and final examination.

A student will be recommended for the degree if members of the advisory and research committee judge both the dissertation and the performance at

- the final examination to be satisfactory. Evaluation forms will be completed by the committee. If approved, a dissertation approval form will be completed, signed by the student's major adviser and the chair of the Department of Pharmacology, and submitted to the Graduate School. The examination may be repeated once, at least 3 months after the first examination. Failure of the second examination will result in dismissal from the pharmacology graduate program.
11. It is the student's responsibility to give 2 unbound copies of the dissertation to the Graduate School, along with an abstract of 600 words or less. One bound copy should be given to the graduate program director and to the student's adviser at least 3 weeks prior to graduation. All dissertations will be microfilmed and there is a fee.

REPRESENTATIVE SCHEDULING

Below is a representative schedule of the requirements for the Ph.D. degree in pharmacology. Note that alternative scheduling is available for those students who desire an accelerated entry from a master's degree program, or for those students who already have a Master of Science degree in pharmacology. In addition to the required course work listed below, other electives offered by the pharmacology graduate program include PHRM 565-2, Toxicology; PHRM 560-2, Geriatric Pharmacology; PHRM 590-1 to 24, Readings and Research in Pharmacology.

In Carbondale.

	Credits
Year 1	
Fall Semester	
PHSL 410a Mammalian Physiology	5
CHEM 451a Biochemistry	3
EPSY 506 Statistics, Inferential	4
Total	12

In Springfield.

Summer Session	
PHRM 551 Methods in Pharmacology	4
Total	4
Year 2	
Fall Semester, Choose Adviser and Formulate Dissertation Committee	
PHRM 550a Principles of Pharmacology	4
PHRM 550b Principles of Pharmacology	4
PHRM 500 Pharmacology Seminar	1
PHRM 600 Dissertation Research (optional)	3
Total	9-12
Spring Semester	
*PHRM 555 Cardiovascular Pharmacology	3
*PHRM 574 Neuropharmacology	3
PHRM 500 Pharmacology Seminar	1
PHRM 600 Dissertation Research (optional)	3
*Choice of Two Advanced Courses	
Total	7-10
Summer Session, Preliminary Exam, The Comprehensive Written Exam of Course Work	
Summer Semester	
PHRM 590 Readings or Research in Pharmacology	3
PHRM 600 Dissertation Research	3
Total	6
Year 3	
Fall Semester, Dissertation Proposal Defended Orally Admission to Candidacy	
PHRM 600 Dissertation Research	6
PHRM 500 Pharmacology Seminar	1

PHRM 590 Readings or Research in Pharmacology (optional)	3
Spring Semester	
PHRM 600 Dissertation Research	6
PHRM 500 Pharmacology Seminar	1
PHRM 590 Readings or Research in Pharmacology (optional)	3
Total	7-10
Summer Session	
PHRM 600 Dissertation Research	3
Total	3
Year 4	
Fall Semester	
PHRM 600 Dissertation Research	6
PHRM 500 Pharmacology Seminar	1
Total	7
Spring Semester	
PHRM 600 Dissertation Research	6
PHRM 500 Pharmacology Seminar	1
Total	7

SUMMARY OF REQUIREMENTS

Achievement of a grade point average of at least 3.0 ($A = 4.0$)

24 credit hours residency

Completion of research tools required by dissertation committee

Comprehensive written preliminary exam of course work

Admission to candidacy

Oral defense of dissertation proposal

Submission of dissertation to adviser (10 weeks prior to graduation)

Corrected dissertation to dissertation committee (8 weeks prior to graduation)

Completion of an approved dissertation with 24 hours of dissertation credit

Announcement of dissertation defense (1 week prior notice)

Oral defense of dissertation

Submission of approved dissertation to Graduate School (2 copies), graduate program director (1 copy), and adviser (1 copy) 3 weeks prior to graduation

Submission of departmental clearance form

All dissertations shall be microfilmed and a fee is required.

Philosophy

The Department of Philosophy offers a wide range of advanced courses in the major areas within the field leading to the M.A. and Ph.D. degrees. Students are offered a diversified curriculum not dominated by one school of thought or method of approach. The broad range of specializations represented by the faculty exposes students to a variety of aspects of philosophy and at the same time permits them to concentrate on their own particular area of interest. Graduate-level courses in such allied fields as the natural and social sciences, the arts, linguistics, and law offer supplements to the philosophy curriculum.

Associated with the department are the Center for Dewey Studies, which is preparing and publishing the definitive edition of the collected works of John Dewey, and The Library of Living Philosophers, edited by Lewis E. Hahn. The University library provides excellent research facilities with 1.8 million volumes, an extensive collection of philosophical journals, and important archives in American philosophy, including the Open Court papers, and the papers of John Dewey, J. H. Tufts, Stephen C. Pepper, Edward Scribner Ames, Henry N. Wieman, and Herbert Schneider. These resources contribute to an important emphasis on American philosophy in our program.

An important part of the graduate program is a philosophy colloquium in which faculty and students participate. Distinguished visiting philosophers from this country and abroad present lectures to this colloquium throughout the academic year. The graduate students have their own philosophy club which meets for papers and discussion on alternate weeks. They also edit and publish *Kinesis*, a graduate journal in philosophy.

The Department of Philosophy offers graduate work leading to the Master of Arts and Doctor of Philosophy degrees. Graduate courses in philosophy may be used also as a minor in programs leading to the Master of Arts or Master of Science in Education degrees. Students who do not plan to continue work in philosophy beyond the master's degree level are encouraged to elect a graduate minor or to combine philosophy with another subject in a 40-hour double major.

All graduate students in philosophy are expected to have some supervised experience in teaching basic work in the field, either through regular teaching assistantships or through special assignments. Opportunities for intern experience at area junior or community colleges are made available.

Admission

Admission to the philosophy graduate program requires the following:

1. An application form to be sent to the Graduate School.
2. Two official transcripts of each school attended to be sent to the Graduate School. One transcript should be sent to the department.
3. A sample of written work, e.g., a term paper written for an undergraduate philosophy class, to be sent to the department's director of graduate studies.
4. Three letters of recommendation from individuals familiar with the student's work should be requested by the applicant to be sent to the department's director of graduate studies.
5. Scores for the Graduate Record Examination verbal and quantitative scores are requested but not required to be submitted to the department.

The department expects an applicant for admission to its graduate program to have had at least 15 semester hours work in philosophy or closely related theoretical subjects, including at least one semester in ethics, one in logic, and a year in the history of philosophy. The department may waive a portion of this requirement in favor of maturity and of quality of breadth of academic experience. The applicant will be required to make up serious background deficiencies by taking appropriate undergraduate philosophy courses without credit.

Applications for University fellowships and Morris Fellowships should be sent to the department by February 1 of the academic year preceding that for which application is made. Applications for departmental graduate assistantships should be sent to the department by April 1 of that year.

Master of Arts Degree

The department's M.A. degree program is designed both for students wishing to continue on for a Ph.D. degree within a pre-doctoral program and those who plan to receive a terminal master's degree. For the latter students the department offers increased opportunities for electives in the field of education or in subjects related to philosophy.

Pre-Doctoral Program. In order to receive an M.A. degree within a program leading to the Ph.D. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields, 6 of which may be credited toward preparation of a thesis.
2. Demonstrate competence in formal logic during the first year of residence either through appropriate course work or by passing with a grade of *B* or better an examination equivalent to the Philosophy 320 final suitably supplemented with additional materials on Aristotelian logic.

3. Pass an M.A. comprehensive examination on the history of philosophy to be taken no later than in the fall semester of the student's second year of graduate work.
4. Demonstrate reading knowledge of one foreign language, usually French or German, by passing a proficiency examination in that language or by passing the appropriate 488 foreign language course with a grade of *B* or better.
5. Fulfill a research writing requirement by either: a) writing an M.A. thesis of approximately 50 pages; or b) submitting 3 edited research papers written in conjunction with graduate seminars. This requirement should normally be met no later than one's second year of residence. The candidate for the M.A. degree will take an oral examination conducted by a 3 member faculty committee on the research subject.

Teaching Master's Program. In order to receive an M.A. degree within a program designed to prepare students for two-year college teaching the student must:

1. Complete 30 semester hours of course work, 9 of which may be taken outside the field of philosophy in either the Department of Higher Education or in fields related to philosophy approved by the department's director of graduate studies.
2. Demonstrate competence in formal logic as in 2 above.
3. Pass the department's M.A. comprehensive examination on the history of philosophy as in 3 above.
4. Fulfill the department's research writing requirement described in 5 above.

Students within this program are not required to demonstrate reading knowledge of a foreign language.

Doctor of Philosophy Degree

The Ph.D. degree in philosophy is designed to prepare students for college teaching and for research in their field of study. To enter the doctoral program leading to this degree the student must have received an M.A. degree in philosophy at either SIUC or some other institution.

In order to receive the Ph.D. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields beyond the M.A. degree.
2. Demonstrate competence in formal logic during the first year of residence as required for the M.A. degree.
3. Demonstrate a background in the history of philosophy by passing the department's M.A. comprehensive examination on the history of philosophy. Incoming doctoral students will be expected to take this examination within the first year after entering the Ph.D. program.
4. Fulfill a research tool requirement in one of the following ways: a) demonstrating a reading knowledge of 2 foreign languages by proficiency examination or by passing the appropriate 488 language courses with grades of *B* or better; b) showing an appropriately higher proficiency in 1 language; or c) demonstrating a reading knowledge of 1 foreign language and completing satisfactorily at least 2 courses at the graduate level in an outside area approved by the director of graduate studies. These courses do not count toward the fulfillment of 1 above.
5. Pass a written preliminary examination on the following 4 areas: metaphysics and philosophy of religion; epistemology and philosophy of science; value studies (ethics, social philosophy, and aesthetics); and an area of historical specialization. This examination will normally be taken only after the student has accumulated at least 24 hours of credit beyond the M.A. degree.
6. Write a doctoral dissertation under the supervision of a faculty dissertation committee. This dissertation is started only after the student has completed

30 hours of work beyond the M.A. degree and has been admitted to candidacy for the Ph.D. degree. After the dissertation has been accepted by the candidate's committee, the student is given an oral examination on the dissertation and related topics. Should a student fail to complete the dissertation within 5 years after admittance to candidacy, the student must take an oral examination (usually administered by the internal members of the dissertation committee) to be admitted to candidacy a second time.

Physical Education

Graduate courses in physical education are offered toward the Master of Science in Education degree with a major in physical education or for the Doctor of Philosophy degree in education with a concentration in physical education. In addition, students may elect courses in physical education to complete requirements for a minor when their program of study allows for a minor.

The minimum number of hours required in physical education at the master's level is 24. The total number of hours required for the master's degree is a minimum of 30 semester hours.

Master's Degree

The departmental requirements for unconditional admission as a master's degree candidate are:

1. Fulfillment of the requirements for admission to the Graduate School.
2. Presentation of an undergraduate course in kinesiology physiology of exercise, human anatomy, motor learning, measurement and evaluation, and at least one in educational psychology or psychology of the particular field of the student's specialty. Appeals may be made within the special program areas.
3. Graduate Record Examination (GRE) scores.

A student may be conditionally admitted to the program and may be permitted to do graduate course work while removing undergraduate deficiencies.

Requests for transfer of credits from other institutions will be considered by the department only before the completion of the first term of enrollment.

Requirements

The following required courses common to all concentrations are PE 500, 503, and either 592 or 599. The courses are designed to provide common experiences to all students regardless of their specialization. For 599 two bound copies are deposited with the department. Two unbound copies are deposited with the Graduate School.

Doctor of Philosophy Degree in Education

The Department of Physical Education participates in the Doctor of Philosophy degree in education with a concentration in physical education. See the description of the Ph.D. degree in education.

Inquiries regarding application should be directed to the chair of the Department of Physical Education.

Physics

The Department of Physics offers graduate work leading to the Master of Arts and Master of Science degrees with a major in physics. Graduate courses in physics may also be taken to satisfy teaching specialty requirements for the Master of Science in Education degree major in secondary education or in higher education.

In addition to the general requirements of the Graduate School, the student must complete PHYS 500A (or mathematics equivalent), 510, 520, and 530. Other specific requirements for the master's degrees are as follows.

Master of Arts

This program is designed primarily for those planning to enter a Ph.D. program. A reading knowledge is required in French, German, or Russian as demonstrated by passing one of the Educational Testing Service's graduate foreign language examinations administered by the testing center of the University's Career Planning and Placement Center or by passing FL 488 with a grade of A or B.

The M.A. degree major in physics will be granted on the basis of a research paper and 30 semester hours of course work, of which 22 semester hours must be at the 500 level. Each candidate for the M.A. degree is required to earn one credit in PHYS 581 by lecturing in the graduate seminar and is required to pass an examination, written or oral or both, covering graduate work including the research paper. This examination is given by the student's advisory committee.

Master of Science

This program is specifically designed for those who wish a professional degree and do not plan to continue beyond the master's level. A reading knowledge of a foreign language or demonstrated competence of computer skill is required. This requirement can be met by passing one of the Educational Testing Service's graduate foreign language examinations for the language option, or by passing FL 488 with a grade of A or B, for the language option, or by passing MATH 475a, CS 464a, or an equivalent course in numerical analysis for the computer skills option. English can be substituted for either of the above requirements at the discretion of the graduate adviser provided it is not the native language of the candidate.

A thesis is required, based upon not more than 6 nor less than 3 semester hours of 599-level credit. The 599 credit requirement is in addition to the minimum of 15-hour requirement at the 500 level as stated in this catalog and should be distributed preferably over several terms of enrollment. Each candidate for an M.S. degree is required to earn one credit in PHYS 581 by lecturing in the graduate seminar and is required to pass an examination, written or oral or both, covering graduate work including the thesis. This examination is given by the student's advisory committee.

Physiology

Graduate courses in physiology may be taken leading to the Master of Science or the Doctor of Philosophy degrees with a major in physiology. Graduate courses in physiology may also contribute to a program leading to a Master of Science degree major in biological sciences or to a teaching specialty for the Master of Science in Education degree major in secondary education or in higher education.

The Department of Physiology offers advanced training in mammalian physiology, cellular and comparative physiology, endocrinology and pharmacology, biophysics, and human anatomy. Students entering the graduate training program are advised to plan the course work so as to acquire a broad knowledge of the field before emphasizing one of these sub-disciplines. The advisory system in the department is set up to help students in planning their work. All graduate training programs in the department are subject to approval of the graduate training committee of the department.

Each term the student must be engaged in a training assignment which supplements formal course work and will consist of research or teaching or both. The student is required to have participated in both types of activities, research

and teaching, as a graduate student at SIUC as a condition for receiving a graduate degree.

Prerequisites for graduate training with a major in physiology usually include the equivalent of an undergraduate major in one of the biological sciences, plus inorganic and organic chemistry and a minimum of one year each of physics and mathematics. Students with undergraduate training in related areas, such as chemistry, physics, mathematics, computer science, psychology, or engineering are strongly encouraged to consider graduate work in physiology; deficiencies in the requirements listed above can be made up early in graduate training.

Master's Degree

To complete the master's degree with a major in physiology, the student must ordinarily have completed a minimum of 30 semester hours of graduate credit. The student is required to pass an oral or written examination over the field of physiology and the thesis topic, and must present an acceptable thesis demonstrating ability to perform high quality research under supervision.

Equivalent work completed at other institutions or in other departments may be substituted for a part of the course requirements for graduate work in physiology.

Master's students are encouraged but not required to attain competence in at least one research tool (computer sciences, statistics, electronics, advanced mathematics, electron microscopy, etc.). Competence may be demonstrated by successful completion of appropriate courses or by private study, as determined by the student's graduate advisory committee. A minor is not required for the master's degree major in physiology; however, a student may elect to obtain a minor in any other intellectual area approved by the department.

Doctoral Program

Students entering the doctoral program major in physiology should present as a minimum the requirements listed above for the master's degree program. In addition, it is strongly recommended that the doctoral student have completed calculus and physical chemistry. Students with prior training in chemistry, physics, engineering, computer sciences, etc., can usually expect to spend some additional time acquiring the requisite biological sciences background.

For admission to doctoral candidacy, the doctoral student should have completed a reasonably broad spectrum of courses offered by the department, should have acquired a competence in two of the research tools mentioned above, and must have successfully passed a written preliminary examination.

Ordinarily, doctoral students should expect to spend a minimum of 3 years beyond the bachelor's degree or 2 years beyond the master's degree, in residence. They will be required to present an acceptable dissertation describing original research performed with minimal supervision and deemed by their graduate committee to be of such quality as to merit publication in the refereed literature of the field. A final oral examination will be held over the field of the dissertation.

Plant and Soil Science

The Department of Plant and Soil Science offers programs of study leading to the Master of Science degree with a major in plant and soil science with concentrations in the areas of crop, soil, and horticultural sciences; an emphasis in environmental studies in agriculture is also available in each of these concentrations. Supporting courses in botany, microbiology, chemistry, statistics, and other areas essential to research in the student's chosen field may be selected. Supporting courses are selected on an individual basis by the student and the advisory committee. Once the general field has been selected, the research and

thesis may be completed in any one of the many divisions of that field. In field crops, the research may be directed toward crop production and management, weeds and pest control, or plant breeding and genetics; in horticulture, the research and thesis may be in landscape design, vegetables, tree-fruits, small-fruits, floricultural and ornamental plants, plant tissue culture, or turf management; in soils, the research may relate to soil fertility, soil physics, soil microbiology, soil chemistry, or soil and water conservation; in environmental studies, the research may be directed toward sound pollution, water pollution, reclamation of strip-mined soil, or agricultural chemical pollution problems. Often two of these more restricted areas can be combined in one thesis problem.

Students interested in plant and soil science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in botany. The program, which is administered by the Graduate School through the Department of Botany, is adequately flexible to allow students to explore such interests as plant physiology, plant nutrition, chemical control of plant growth, plant genetics, etc.

Admission

Application for admission to graduate study in the department should be directed to the Graduate School. The applicant must have the registrar of each college previously attended send an official transcript directly to the Graduate School. In addition applicants should send a letter directly to the chair of the Department of Plant and Soil Science expressing their professional and personal career objectives. Applicants should also request that four persons who can evaluate the student's academic ability write letters directly to the chair in their behalf. Final admission to the program and a particular concentration administered by the Department of Plant and Soil Science is made by the department. Minimal admission requirements to the program are: a) completion of the plant and soil science undergraduate requirements and b) a minimal grade point average of 2.7 ($A = 4.0$). The students who do not meet the requirement of completing the required courses in the undergraduate program in plant and soil science may apply to enroll as unclassified students to make up these deficiencies. Undergraduate course work taken to correct these deficiencies will not apply to the minimum requirements for the master's degree. Students entering the plant and soil science graduate program with a GPA below 2.70 are accepted on a conditional basis and must enroll in 12 hours of structured courses at the 400-500 level and make a GPA of 3.0 or be suspended from the program.

Program Requirements

Minimum requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit. Of the 15 hours required at the 500 level, no more than 10 credit hours of unstructured courses may be counted toward the degree. If the student writes a thesis, 15 semester hours (which may include thesis credits) must be in plant and soil science courses; if the student submits a research paper (non-thesis option), 20 semester hours must be in plant and soil science courses. There is no foreign language requirement.

Each student, whether in the thesis or non-thesis option will be assigned a mutually agreed upon major professor to direct the program. The major professor will serve as chair of the student's advisory committee which will consist of at least 3 members from within the department and 1 member from another department. Each master's degree candidate must pass a comprehensive oral examination covering graduate work including the thesis or research paper.

Political Science

The Department of Political Science endeavors to accommodate the special and general interests of students through a broad curriculum, individualized pro-

grams, and varied teaching and research assistantships. The department takes a personal interest in its students throughout their period of enrollment and assists them in finding satisfying professional employment upon graduation. Graduates now hold academic appointments in 60 American universities and colleges and more than a dozen foreign institutions of higher education. Graduates are also employed in various governmental agencies at the national, state, and local level.

The professional interests of the faculty range across all fields of political science, and have resulted in significant scholarly publications and presentations at professional meetings.

Graduate programs in the Department of Political Science may be designed to lead to Master of Arts and Doctor of Philosophy degrees with a major in political science, and a Master of Public Affairs degree. Graduate work in political science may be taken to satisfy requirements for a teaching specialty for the Master of Science in Education degree with a major in either secondary education or higher education. Graduate work in political science may also serve as a cognate field for a student majoring in another discipline.

Provisions of this publication are supplemented by policies made explicit in the regulations and procedures of the graduate studies program of the Department of Political Science and made available to all graduate students.

Application Procedures

Application for admission to graduate study in political science and all post-secondary education transcripts should be directed to the Graduate School. Other application materials should be sent to the director of graduate studies, Department of Political Science. These materials consist of (1) three letters of recommendation from persons who can evaluate the applicant's academic ability; (2) a careful explanation of reasons for seeking graduate study; and (3) scores on the Graduate Record Examination (GRE) verbal and quantitative tests. Foreign students applying from abroad are not required to submit GRE scores, but are advised to do so if they are applying for financial assistance. Foreign students must have taken the test of English as a foreign language (TOEFL) and passed the examination with a score of at least 550. In exceptional cases the GRE may be waived as an admission requirement, but it must be taken at the first offering of the examination after the student enters the program. Application material, including instructions for applying for financial assistance, may be obtained from the director of graduate studies, Department of Political Science. Applications and supporting materials should be submitted at least four weeks before the term of registration. Those applying for graduate assistantships or fellowships should complete their applications by February 1.

Master of Arts Degree Requirements

Admission. Applicants for the Master of Arts degree program are admitted only with the approval of the graduate studies committee of the department. The department imposes requirements for admission in addition to those of the Graduate School. The department will ordinarily accept as candidates for the Master of Arts degree only those applicants who (1) have graduated from an accredited four year college or university; (2) have completed a minimum of 24 quarter or 16 semester hours in government or political science; (3) have a 2.7 (4-point scale) overall grade point average or, alternatively, have a 2.9 overall grade point average for the last 2 years of undergraduate work; and (4) have a 3.0 average in government or political science.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid the accumulation of incomplete grades. No student with more than 2 incomplete grades can be awarded a graduate student appointment, and a student

holding a graduate student appointment is subject to having the appointment terminated upon acquiring 2 or more incomplete grades.

Course Work. The director of graduate studies serves as adviser to each M.A. student until an advisory committee has been selected by the student with the approval of the director, normally no later than the middle of the student's first semester in residence. The advisory committee must approve the student's program. The student must earn a minimum of 30 semester hours of acceptable graduate credit to qualify for the Master of Arts degree. A maximum of 12 hours can be earned in 400-level courses. A minimum of 6 semester hours must be completed in each of 3 of the areas of emphasis listed under the Ph.D. requirements. M.A. candidates must complete pro-seminars in at least 2 of the 3 areas of emphasis offered by the student for examination except in cases of cognate fields that do not stipulate pro-seminar requirements. The selection of areas of emphasis must be approved by the student's advisory committee.

The student who completes the minimum of 30 semester hours of course work may devote no more than 6 of those hours to courses taken outside of the department unless the work is in an approved cognate area. In the latter case, a maximum of 12 hours in the cognate area may be counted toward the fulfillment of area and degree requirements.

Each candidate for the Master of Arts degree must complete POLS 500. Proficiency in one research tool complementing the selected areas of emphasis is also required, i.e., statistics, data management, or foreign language. Methods of demonstrating proficiency are the same as those required of Ph.D. students. A student may count a maximum of 6 semester hours of 400 or 500-level tool course work toward partial completion of degree requirements, provided that (1) no more than 6 semester hours of an approved cognate area are counted as part of the 30 semester hours and (2) the tool courses are not counted as fulfilling one of the area requirements.

Thesis. In addition to the required course work, the student must submit a thesis. A student may receive a maximum of 6 hours credit for the thesis. Before registering for thesis credit, the student must have an overall GPA in M.A. work of at least 3.0 ($A = 4.0$) and must have completed the research tool requirement and selected a thesis committee approved by the director of graduate studies. The membership of the advisory committee and the thesis committee will normally be different from that of the advisory committee. A prospectus outlining the research proposed for the thesis must be approved by the members of the thesis committee and filed with the director of graduate studies.

A final oral examination conducted by the appropriate committee and open to the public will cover the thesis and the student's general competence in political science. A student may not take the examination if there are any incomplete grades on record except by petition to the graduate studies committee. If the student fails the examination or if the thesis is rejected, the student may be dropped from the department's degree program or may submit a new or revised thesis or repeat the examination at the discretion of the examining committee.

Copies of the thesis should be submitted to the student's thesis committee members no later than one week before the scheduled final oral examination. A copy of the approved thesis must be filed with the director of graduate studies.

Exceptions. An exception from these rules must be justified in a petition approved and signed by the student's committee members, submitted to the director of graduate studies and approved by the members of the graduate studies committee at a scheduled meeting.

Master of Public Affairs Degree Requirements

Admission. Students are admitted to either pre-entry or mid-career status. To be admitted as a mid-career student, the student must have at least one year of professional experience in a public or quasi-public agency. Students having less than one year of professional experience are admitted to pre-entry status.

Applications for admission should be directed to the Graduate School and the director, Master of Public Affairs degree program, Department of Political Science. To be considered for admission, applicants must have: (1) graduated from an accredited four-year college or university and (2) received an overall grade point average of 2.7 (4.0 scale) or, alternatively, a 2.9 overall grade point average for the last two years of undergraduate work. In instances where a candidate's promise is indicated by professional experience rather than undergraduate record, consideration will be given on an individual basis to admission or conditional admission. Retention is governed by the standards of the Graduate School.

Degree Requirements. M.P.A. students complete a 42 semester hour program of study, as follows: (1) a 5-course core curriculum, totaling 15 credit hours, with a minimum of 2.8 grade point average, (2) 18 credit hours of elective course work, 6 of which must be earned in graduate level courses in the Department of Political Science, (3) a research paper in public affairs, for which 3 credit hours are awarded, (4) an oral examination, and (5) an internship, for which 6 credit hours are earned. Of the 33 hours of graduate level course work, at least 18 credit hours must be taken in the Department of Political Science. Each of these requirements is described more fully below.

Prerequisites. Students lacking undergraduate preparation in American government and public administration must complete GSB 212 and POLS 340 during their first semester of study. Exceptions to this may be granted to mid-career students, on a case-by-case basis. Competence in statistics is required before enrollment in certain core courses and may be demonstrated by completion of an appropriate graduate level course, or, on occasion, by previous undergraduate course work.

The Core Curriculum. The core curriculum consists of the following five courses.
POLS 540-3 Environment of Public Administration
POLS 542-3 Public Budgeting and Fiscal Management
POLS 543-3 Public Personnel Management
POLS 544-3 Program Analysis and Evaluation
POLS 545-3 Organization Theory and Behavior

To facilitate the work of part-time (employed) students, each of the core courses is offered in the evening at least once every 3 years. A substitution for 1 core course may be allowed if the substituted course is similar in content to the particular core course or if competence in the subject matter of the course is clearly evident.

Electives. Elective courses may be selected from the offerings of various departments across the University, as well as those of the Department of Political Science. The student and the faculty adviser consult in selecting courses best suited to the student's individual career goals, which may be either specific or general in nature.

The Research Report. The research report is to be an examination of some issue or problem in public administration. It may be either theoretical or applied, or some combination of theoretical and applied concerns. Early preparation for the research project and related report begins during the student's first semester of

study, and completion is normally a prerequisite for internship placement. The report is written under the supervision of the student's faculty committee.

The Oral Examination. After completion of course work and the research report, an oral examination is scheduled and conducted by the student's faculty committee. The examination gives attention to course work as well as the methodology and findings of the research report. After satisfactory performance in the oral examination, a copy of the approved research report must be filed with the Graduate School and program director. Students who fail the examination are allowed a second examination after remedial work as recommended by the committee. Candidates who fail more than once are dropped from the program.

The Internship. Pre-entry students must serve an internship in a governmental agency, unless a substitution as described below is made. The internship is usually for 4.5 months of full-time work or 9 months of half-time work, and it provides a stipend as negotiated by representatives of the program and agency. The internship is normally scheduled to begin after course work and the research report have been completed. Mid-career students receive credit for the internship on the basis of previous professional experience and submission of a paper as specified in program guidelines.

The student may substitute 6 semester hours of course work for the internship if a request is approved by the program director or if an appropriate internship is not available.

Concurrent Degrees in Law and Public Affairs

Students who have been admitted separately to the Southern Illinois University School of Law and graduate program in public affairs may study concurrently for the Juris Doctor and Master of Public Affairs degrees. Students interested in concurrent study should inform both programs before entering the second academic year of either program and will register as law students with a minor in public affairs. Each program will maintain records and evaluate final degree requirements as if the student were enrolled in only one program.

Concurrent study students must complete a minimum of 81 semester hours of School of Law credits which meet all law area requirements, as well as all M.P.A. requirements to receive the J.D. degree. Students will not be permitted to take course work outside the prescribed law curriculum during the first year of law classwork. Students may enroll for both law and graduate course work during subsequent years provided a minimum of 10 semester hours of law and 12 semester hours total are taken in any term which has law course enrollment.

Concurrent study students must complete a minimum of 42 semester hours which meet the distribution requirements of the M.P.A. program to receive the M.P.A. degree. A maximum of 6 semester hours of School of Law credits of a public affairs nature (for example administrative law, environmental law, labor law, natural resources law) may be applied to both J.D. and M.P.A. requirements if approved by the director of the M.P.A. program. All concurrent study students will complete either the M.P.A. internship experience and project, or the applied study project. Internships will normally be scheduled during the third or fourth year of concurrent study.

Doctor of Philosophy Degree Requirements

Admission. Applicants for the doctoral degree are admitted only with the approval of the graduate studies committee of the department. In addition to Graduate School and other departmental requirements, the committee ordinarily requires a grade point average of 3.5 (4-point scale) in graduate-level work and adequate background in political science. Admission is also possible through the accelerated entry option (see below) as well as direct entry from baccalaureate

programs in those instances where the graduate studies committee identifies high achievement and potential in an applicant's undergraduate work. Applicants for direct entry should contact the director of graduate studies, Department of Political Science, for the most recent departmental regulations and procedures governing admission under this option.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid accumulating incomplete grades. Students holding graduate assistant appointments are expected to make reasonable progress toward a degree. No student with more than 2 incomplete grades can be awarded a graduate assistant appointment, and a student holding a graduate assistant appointment is subject to having the appointment terminated upon acquiring two or more incomplete grades.

Accelerated Entry into the Ph.D. Degree Program. A student enrolled in the M.A. degree program may petition the graduate studies committee after 2 semesters in residence for waiver of the requirement of an M.A. degree as prerequisite for admission to the doctoral program, and for direct entry to the Ph.D. degree program in accordance with the following conditions. First, the student must be certified by the advisory committee to be an outstanding graduate student. In so doing, the committee must consider a wide range of supporting evidence including but not restricted to GPA, GRE, M.A. degree tool requirement, and evaluative letters from all graduate instructors from whom the student has taken courses. Second, the student must present 1 graduate research paper of outstanding quality or a published article of appropriate character and quality. The petition accompanied by the advisory committee recommendation and the supporting evidence must be presented to the graduate studies committee which will make the final decision on the petition. If admitted, the student will proceed toward the Ph.D. degree in accordance with the established rules of the department and Graduate School.

Direct Entry into the Ph.D. Degree Program. Students admitted under the direct entry option are required to fulfill M.A. degree method, tool, and course work requirements as part of the Ph.D. degree work. Additional measures of progress may be required by the student's advisory committee.

Program of Study. The work of a Ph.D. student is directed toward admission to candidacy for the doctorate, for which the student must meet the residency requirement, meet course, methods, and research tool requirements, maintain a GPA of at least 3.5, and pass preliminary examinations in 4 areas of emphasis.

The student must be in residence for at least 1 year (2 semesters in each of which the student completes at least 9 hours or 6 hours if the student holds a graduate assistantship) after admission to the Ph.D. program before preliminary examinations can be taken. Residence shall be counted from the time the student passes the final examinations for the master's degree or, in cases of accelerated entry or direct post-baccalaureate entry to the Ph.D. degree program, when the student has met all graduate school and departmental requirements pertaining to those options.

The student's program must be approved by an advisory committee selected by the student and approved by the director of graduate studies. The members of the advisory committee should represent the student's areas of emphasis.

The student prepares in 4 areas of emphasis, in 3 of which written examinations and an oral examination must be passed. In the examination areas, 9 hours of course work at the graduate level must be completed, including the appropriate pro-seminar in each area; not more than 3 hours of readings or individual research may be counted in the 9 hours for each area. In the non-examination fourth area, the appropriate pro-seminar and 3 more hours (which cannot be readings or individual research) are required. The areas of emphasis are: political theory;

methodology; American government and politics; public law; public administration and policy analysis; comparative government and politics; international relations, law, and organization; a cognate or interdisciplinary field.

The student must also complete the requirements for 2 research tools (see below) and the specialized research methods course best complementing the student's areas of study. The student's advisory committee may require additional course work, in or out of the areas of examination. The student, before enrolling in POLS 590, Readings or POLS 591, Individual Research, must have completed the appropriate pro-seminar for the area in which readings or individual research is to be done. At least half of all course work must be in 500 level courses.

Research Tools and Methods.. The Ph.D. is a research degree, and students must acquire knowledge of research tools and methods.

1. Research tools: statistics, data management, foreign language. All Ph.D. students must satisfy a statistics requirement by successfully completing MATH 516a and b or another statistics sequence approved by the graduate studies committee. Students must also satisfy one additional tool requirement. A data management tool may be satisfied by POLS 503a or b. A foreign language tool may be satisfied by a minimum score of 465 on the ETS examination or by successful completion of a 488 course in the Department of Foreign Languages and Literatures. A special examination approved by the graduate studies committee may be offered for a language not covered by ETS or the Department of Foreign Languages.

Students whose native language is not English may offer English to satisfy the additional tool requirement.

2. Methods of research.

a. POLS 500 is a general methodology course. It is required of M.A. students and of Ph.D. students who have not had a comparable graduate level methodology course.

b. Specialized methods of research. Students are required to complete successfully one specialized methods course, chosen from the POLS 501 sequence or another appropriate course, such as EPSY 508 or 531, HIST 492, PSYCH 522a or b or 527, or SOC 513. The course selected should be the one most appropriate to the student's primary area of emphasis.

This department is amenable to self-tailored programs subject to the expertise of the faculty and the approval of the graduate studies committee. Such approved programs may suggest the need for tools in addition to or in place of those tools specified in this section.

Preliminary Examinations. Before preliminary examinations can be scheduled a student must have completed all course work, 2 research tools, and a specialized methodology course, have a grade point average of at least 3.5, and have had a preliminary examination committee approved by the director of graduate studies. Students may not take preliminary examinations if there are any incomplete grades on their records except by petition to the graduate studies committee.

The 3 written preliminary examinations are to be completed within a period of 10 days; an oral examination follows within 1 week of the last written examination upon the approval of the examination committee. A student who passes the written and oral examinations is advanced to candidacy for the Ph.D. degree; a student who does not pass the examinations may be permitted to retake them at a later date or be dropped from the degree program of the department, at the discretion of the advisory committee and the graduate studies committee.

Dissertation. A dissertation must be written under the direction of and with the approval of a five member committee, one of whom must be from outside the Department of Political Science. The membership of the dissertation committee

will normally be different from that of the advisory committee. A dissertation prospectus must be approved by the members of the dissertation committee and filed with the director of graduate studies. Students must register for a minimum of 24 hours of dissertation credit, POLS 600, and cannot register for dissertation credit until they have been admitted to candidacy or, with the approval of the advisory committee and the director of graduate studies, until the term during which preliminary examinations are scheduled.

An acceptable dissertation must be completed within 5 years after admission to candidacy, or the student will have to repeat preliminary examinations. Final copies of the dissertation should be submitted to the members of the dissertation committee no later than 10 days before the scheduled oral examination. The success of a final oral examination devoted primarily to a defense of the dissertation and open to the public will complete the requirements for the Doctor of Philosophy degree. A final copy of the dissertation must be filed with the director of graduate studies.

Cooperative Program with Sangamon State University

The Department of Political Science at SIUC has an agreement with the political studies program at Sangamon State University in Springfield to facilitate the entry of SSU political studies students into the SIUC political science Ph.D. degree program. SIUC will accept appropriate SSU graduate credits to fulfill course work, methodology, and research tool requirements. SSU students can qualify for accelerated entry into the SIUC doctoral program after 2 semesters of study at SSU with 24 semester hours completed, a 3.5 GPA, 2 proseminars, and written evaluations from course instructors. A number of SSU faculty are eligible to serve on graduate student examination and dissertation committees. SIUC will accept up to 12 hours credit for course work, research projects, and internships completed under SSU faculty direction towards the SIUC political science Ph.D. degree. Other course work, residency, and dissertation requirements of the SIUC program must be met as described in other sections of this catalog. For more detailed information, ask the director of graduate studies, Department of Political Science, SIUC.

Application of Rules and Exceptions. The department's rules in force at the time of the student's admission to the Ph.D. program will apply while the student is in the program unless (1) the student voluntarily selects a newer set of rules in toto before graduation or (2) the time between admission to the Ph.D. program and passing the preliminary examinations exceeds 5 years. In the latter case, the student will automatically come under the rules in force at the beginning of the sixth year and every fifth year thereafter until the preliminary examinations are passed.

Requests for exceptions to any of the above requirements must be presented in a petition approved and signed by the members of the student's committee, submitted to the director of graduate studies, and approved at a scheduled meeting of the graduate studies committee.

Psychology

The Department of Psychology offers graduate work leading to the Master of Arts, Master of Science, and Doctor of Philosophy degrees with a major in psychology with concentrations in the following areas: experimental, clinical, and counseling psychology. The primary emphasis is on doctoral training, for which the master's degree is a prerequisite.

The goal of graduate study in the Department of Psychology at SIUC is to develop psychologists who will have a broad perspective and scientific sophistication as well as the requisite skills to advance the field of psychology and meet

changing needs. The program emphasizes formal course work in the core curriculum and in the concentrations, preprofessional activities in training assignments, research, and practicum opportunities.

Admission and Advisement

Separate application forms must be submitted to the Department of Psychology and to the Graduate School. Graduate School and departmental application forms may be obtained from the Department of Psychology. Separate forms are not required for application for financial assistance, except for Graduate School fellowships. Students will be accepted for graduate work in psychology only upon approval by the departmental admissions committee as well as the Graduate School. Evaluations of applicants by the departmental admissions committee are based on information from the application form, GRE scores, transcripts, and letters of recommendation.

Upon admission to the department, each student is assigned to a faculty adviser, who assists in academic matters, including the planning of the student's program of study: required courses, planned electives, anticipated dates for fulfillment of specified requirements, etc.

A new adviser may be assigned to a student for 2 reasons: (a) the student or adviser may request a change of adviser; (b) the student may change to a different major area. Requests for a change of adviser should be made in writing to the student's major area committee. To change majors, the student should petition the area subcommittee of the new major.

Core Curriculum

During the first year all students are required to take a two course sequence in quantitative methods and research design (522a and b, or the equivalent). All students enrolled in the master's degree program should have completed the thesis requirement (599, 4-6 hours) by the end of the second year. Six additional elective courses in areas other than the major are required in order to provide breadth as well as some degree of depth in the total field of psychology. The student selects electives in consultation with the adviser. Those in the experimental program select from the following areas, subject to the approval of the faculty teaching in those areas: applied experimental, biopsychology, learning or any other area in the department or an approved area outside the department. Students in the clinical and counseling programs meet this requirement by selecting courses from the above area with the stipulation that, at minimum, the distribution of courses meet the American Psychological Association accreditation requirements.

Areas of Concentration

EXPERIMENTAL PSYCHOLOGY CONCENTRATION

The experimental psychology program provides students with thorough education and training in the theoretical and research methods applicable to the study of behavior. The program is designed to enable students to pursue a variety of career paths in teaching, research, and applied research in academic or nonacademic settings. The student is expected to emphasize at least 1 of the 3 areas of experimental psychology: applied experimental psychology, biopsychology, or learning. In addition to general departmental requirements, students in the experimental psychology concentration are required to take a course in computer programming and must register for research credit (593, 594a, 599, or 600) during all but the first 2 semesters of residence. As an integral part of their training, students are expected to become active participants in 1 or more ongoing faculty research programs.

In addition, students in applied experimental psychology must take the following courses: 564, 569, 571, 594a, three additional courses in research methodology, and an additional course in a computer programming language. PSYCH 571

should be taken during the first two semesters in residence, and 569 during the second, third, and fourth years. Students in biopsychology must take 514, an approved course in neuroanatomy, and 6 additional courses distributed in 2 different areas. One of these areas must be either physiological or developmental psychology. The second area can be either physiological, developmental, or some other approved area such as learning and memory, sensation and perception, or cognition and language. Students in learning must take 510, 511, and at least one of the following courses: 407, 411, 515, and 520. Additional courses and topical seminars, as approved by the student's advisory committee, complete the requirements.

CLINICAL PSYCHOLOGY CONCENTRATION

The clinical psychology program, approved by the Education and Training Board of the American Psychological Association, is designed to develop clinical psychologists for careers in clinical service, teaching, and research. All clinical students take the core of courses and receive early and continued practicum training in both clinical activities and research. Individual interests are accommodated through electives and training assignments and through specialty programs. The following courses are required of all clinical students: 432, 523, 530a and b, 531, 535, 540, 594e, 598.

In addition to the clinical core students take a minimum of 6 additional courses in their emphasis: (1) general clinical students are required to take an assessment practicum and an additional semester of therapy practicum plus 4 electives; (2) the experimental clinical students are expected in their 6 additional courses to take those which have a research orientation, e.g., 532, 533, 539, etc.; in addition, except when enrolled for thesis or dissertation hours, the student is expected to be involved in research each term after the first year; (3) students in the child clinical emphasis are required to take 556 plus 5 electives. In addition it is expected that they will take 552 and 554 as a part of departmental electives.

COUNSELING PSYCHOLOGY CONCENTRATION

The counseling psychology program, approved by the Education and Training Board of the American Psychological Association, is designed to teach students a wide range of skills which will prepare them to function as scientist-practitioners. Graduates are qualified for employment in a university setting (either in an academic department or a counseling center), in hospitals, community agencies, and educational and correctional institutions. The student is expected to develop competence in counseling, psychological assessment, consultation, research, and teaching. The required courses are as follows: 526, 530a, 536, 538 547, 548, 585, and 594f.

Research, Practicum, and Training Assignments

Research or practica are required in each area of concentration. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research, teaching, or clinical service. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from 10 to 20 hours of service per week. This is a degree requirement of all students each term and is independent of any financial support. Therefore, each term the student signs up for one hour of 597.

Master's Degree Requirements

The master's degree requires a minimum of 48 semester hours of acceptable graduate credit, distributed according to the requirements of the student's major area, and the completion of an approved thesis. The master's thesis may be either original research or the replication of an important study. The master's degree is a prerequisite for the doctorate.

Doctoral Requirements

Admission. Admission to the Ph.D. program requires a master's degree, a grade point average of 3.25 or above in graduate studies, and acceptance by the department. A student who receives the master's degree from SIUC must apply formally to the Graduate School for admission to doctoral-level study, and be approved by the department chair.

Records of students entering the program with a master's degree from another institution are evaluated by the departmental admissions committee which notes deficiencies, recommends methods for removing them, and specifies a time limit to do so. Such deficiencies must be removed before the student can be classified as a Ph.D. candidate. The student is recommended to the graduate dean for admission to Ph.D. candidacy only when the statistics sequence, core requirements, and all of the preliminary examinations have been completed.

Accelerated Entry into Ph.D. Degree Program. Students enrolled in the M.A. degree program may be admitted directly to the Ph.D. degree program following departmental certification of graduate work comparable to a master's degree in psychology at SIUC. Accelerated entry is acceptable only for students who have completed substantial work in other programs in psychology which grant the Ph.D. degree but not a master's degree. Students seeking accelerated entry may apply after enrollment at the master's level for one semester. Applications for accelerated entry are reviewed and decided by a faculty committee appointed by the department chair.

Internship. Doctoral students who are concentrating in clinical or counseling psychology must complete an approved internship: 48 weeks for clinical students, and the equivalent of 9 months for counseling students. The timing of the internship varies from program to program; clinical students may take their internship at any time after the completion of the M.A. degree. In order to intern in the third year, a master's thesis prospectus must be approved by the end of the fall semester of the second year. They will not be approved for internship unless this stipulation is met. Alternatively, they may opt to complete all academic requirements before internship. Counseling students are approved for internship after completion of 3 years of academic work, unless they have opted for a concurrent internship. In the latter case, the student carries a half-time internship for 2 years concurrent with school attendance. Since the internship is viewed as an integral part of training, the Ph.D. degree is not awarded until the completion of all academic work and the internship.

Students are responsible, in consultation with their advisers, for scheduling and obtaining internships. It is expected that the internships will be with an APA approved internship agency, unless an exception has been approved.

Preliminary Examinations. Ph.D. candidacy is contingent upon successful completion of 2 written examinations both of which are composed primarily of essay questions requiring substantive knowledge of empirical and theoretical topics. Questions are not limited to course content.

The 2 preliminary examinations cover areas germane to the student's doctoral study, areas differing in subject matter and representing, in aggregate, approximately 3 years of graduate study.

Every student is expected to pass each examination on first taking. In any event a second failure on a preliminary examination will result in a thorough faculty review of the student's entire academic record in order to determine whether the student will be allowed to continue in the program and, if continued, under what conditions.

Minor/Specialization. The minor or specialization examination is tailored by the examining committee to the area of study approved for the student. The examining committee shall consist of at least 2 faculty members, 1 of whom will be designated as chair. After preliminary discussion of a topic area with the proposed committee chair and potential committee members, the student must meet with the major area director and present for final approval a request for the topic area and the examining committee (including additional examiners, if appropriate, and alternate readers).

The student must meet with the committee at least 10 weeks prior to the examination in order to agree upon topics to be covered by the examination and to decide what additional preparation is necessary to assure adequately prepared action. Any changes in topic area or composition of the committee must be approved by the major area director. Should the student fail an examination there is the option of forming a different committee to administer the second examination subject to all the rules stated above.

Major/Comprehensive. Fields of concentration for the major/comprehensive preliminary examination are listed below:

1. **Experimental.** Any one field from the following may be selected for the comprehensive examination: applied experimental psychology, biopsychology, learning.
2. **Clinical.** The major examination includes the following: psychological assessment, psychotherapy, psychopathology, and personality. In addition for the student, the examination reflects the specialization emphasis, i.e., general, child, or experimental.
3. **Counseling.** The major examination includes the following areas: (a) adult personal, social, and career development, (b) assessment, (c) group and individual counseling theories and techniques, (d) research methodology and measurement, and professional issues.

Major/comprehensive examinations are scheduled by the department once a term, ordinarily within the first 2 weeks. Notices are posted well in advance and students are expected to notify the graduate secretary of their intention to take the examination. Examination committees are appointed by the chair.

Dissertation. Each candidate for the Ph.D. degree must write a dissertation showing high attainment in independent, original scholarship and creative effort. A total of 24 credit hours is required. A maximum of 8 hours of dissertation credit may be taken subsequent to passing the minor preliminary examination and prior to passing the major preliminary examination. A student may not hold a prospectus meeting before successful completion of both minor and major examinations.

Thesis and Dissertation Committee

Because the thesis or dissertation project and the proposed committee composition must be formally approved by the department chair, the student should arrange a meeting with the chair well in advance of the prospectus meeting.

A master's thesis committee consists of 3 members including the chair of the committee and a psychology faculty member who is typically from some field other than the student's major area of interest. The Ph.D. dissertation committee consists of 5 members, 1 of whom serves as chair. One of the members must be from a department other than psychology.

Prospectus. Prior to starting the experimental research on a thesis or dissertation, a student must submit a written prospectus to each member of the committee. A carefully written prospectus ordinarily serves as the opening chapters

of the thesis or dissertation. The student also prepares an abstract (normally no more than 2 pages) to be posted in the psychology department office one week before the prospectus meeting.

The approval of the prospectus indicates that the committee members accept the research design. Faculty members not on the committee may attend the prospectus meeting, or may forward suggestions and comments to the committee chair prior to the meeting. Prospectus meetings are not scheduled during the recess period between semesters.

If the prospectus is approved with no major modifications, one copy of the prospectus and a letter of approval, noting any minor modifications are sent by the committee chair to the department chair for filing in the student's permanent records. If major modifications are needed, the student may be asked to rewrite the prospectus, circulate the revised prospectus, arrange another committee meeting, and then file the revised prospectus as above. A prospectus must be approved at least one semester before graduation.

Style. The student has the option of writing the thesis or dissertation in the traditional fashion or in journal style. In the latter case, ancillary material (full survey of literature, subsidiary analyses, etc.) are placed in the appendices, although figures and tables appear in the text. The psychology department prefers that citations, table headings, etc. follow the APA style (*Publication Manual of the American Psychological Association*, 1983 revision, Washington, D.C.).

General Procedures. Students should not register for 599 or 600 hours until they have supervisors and will actually be using university facilities, or faculty time for assistance and direction.

Prior to graduation (a minimum of 5 weeks for master's students and 8 weeks for doctoral students) the candidate must submit a final rough draft of the thesis or dissertation to the full committee so that appropriate suggestions can be made. At least one week usually expires between the submission of the rough draft and the oral examination.

Number of Copies. Four copies of the complete thesis or dissertation are required: two copies are submitted to the Graduate School for placement in the University library, and two bound copies—one for the committee chair, and one for the departmental thesis and dissertation library.

Oral Examination

The Department of Psychology requires an oral examination, conducted by the student's thesis or dissertation committee, for each M.A. and Ph.D. candidate. The examination covers the thesis or dissertation and also includes questions designed to ascertain the student's general competence in psychology.

Oral examinations are open to all interested observers. Notices of the time and place of the examination, and abstracts of the thesis or dissertation, are circulated throughout the department and, in the case of Ph.D. examinations, throughout the University. Two copies of the abstract should be given to the graduate program secretary.

The candidate obtains copies of the oral examination form and the thesis or dissertation evaluation form from the graduate program secretary, and delivers them to the committee members on the day of the orals. Orals meetings are not scheduled during the recess period between semesters.

General Information

Waiving of Course Requirements. Students who wish to have a course waived should consult with their advisers, the course instructor, and the head of their major area. One of the following recommendations will be made: (a) the course will

be waived; (b) a proficiency examination (theoretical, practical, or both) will be given prior to deciding on the student's request; (c) the request will be refused and the student will take the course. A student may appeal the decision by writing a letter to the department chair requesting that the case be reviewed.

Grading Policies. Any student who receives a grade of *Inc.* is responsible for contacting the instructor to determine the time allowed for the completion of the course (normally not more than one year).

For internal records to be used within the department only, pluses and minuses are added to the standard *A, B, C* grades reported to the Office of Admissions and Records.

Student Evaluation. All students are evaluated by the faculty at least once a year, at the end of spring semester. In addition, new students are evaluated in the beginning of the spring semester (first year), and students on probation at times specified in their probation. The evaluation is based on the following criteria: (1) academic performance on a ten point rating scale (*A + = 10*); (2) ratings on the training assignment; and (3) progress toward the degree. The student's evaluation may also be based upon evidence relating to professional attitudes or ethical behavior.

Each student's adviser informs the student of the evaluation and of any faculty recommendations as soon as possible after the meeting. In addition, the department chair writes a formal letter notifying the student of the evaluation and recommendations.

Public Affairs

(See Political Science for program description.)

Radio-Television

(See Telecommunications for program description.)

Recreation

The Department of Recreation offers a broad interdisciplinary program of studies preparing students for administrative careers in recreation management. The program leads to the Master of Science in Education degree with a major in recreation.

Master of Science in Education Degree

Graduate work in recreation stresses administration and research and is open only to highly qualified students. All students must be admitted to the Graduate School in good standing.

The graduate students in recreation may select from 3 program concentrations, each fully accredited by the Council on Accreditation, NRPA, and AAHPER. The first concentration, administration of recreation and park systems, focuses on skills necessary in the management of local, state, and national recreation program service organizations. The second concentration, recreation resources administration, focuses on skills necessary to provide and maintain lands and facilities in the local, state, and national park system. The third concentration, therapeutic recreation, focuses on skills necessary in the management of public

and private organizations which provide a diverse array of therapeutic recreation services.

All concentrations require a minimum of 36 semester hours of course work including 3 hours of thesis, 3 hours of research methods, and 4 hours of inferential statistics. A student must maintain an overall 3.0 (4 point scale) grade point average in order to be eligible for a recommendation to graduate. Upon admission to the program a student should select a chair for the thesis supervisory committee as soon as is practicable. A minimum of 2 additional graduate faculty members, 1 holding rank outside the Department of Recreation, are needed to form the full committee. More than 3 graduate faculty members will be appointed if necessary. After approval of a thesis topic the student will conduct a research effort under the committee's guidance. Upon completion of the research a final oral examination covering the thesis is required.

Graduate students should select 1 of 3 areas of concentration. The decision regarding the concentration need not be made prior to enrollment at the University although the student should most probably make a selection sometime prior to the beginning of the second semester of study.

Major in Recreation

The areas of concentration and the requirements of each are listed below.

ADMINISTRATION OF RECREATION AND PARK SYSTEMS CONCENTRATION

Theory Core

- REC 500-3 Principles of Recreation
- REC 520-3 Park and Recreation Management
- REC 530-3 Programs in Parks and Recreation
- REC 425-3 Planning Park and Recreation Areas
- REC 570-3 Seminar in Recreation Management
- GUID 506-4 Inferential Statistics

Research Methodology Core (select one)

- REC 550-3 Research in Recreation
- EDL 500-3 Education in Research Methods

Research Core

- REC 599-3 Thesis

Total core hours: 28

Elective hours: 11

Total hours required: 36

RECREATION RESOURCE ADMINISTRATION CONCENTRATION

Theory Core

- REC 500-3 Principles of Recreation
- REC 520-3 Park and Recreation Management
- REC 425-3 Planning Park and Recreation Areas
- REC 445-3 Outdoor Recreation Management
- REC 570-3 Seminar in Recreation Management
- GUID 506-4 Inferential Statistics

Research Methodology Core (select one)

- REC 550-3 Research in Recreation
- EDL 500-3 Education in Research Methods

Research Core

- REC 599-3 Thesis

Other (May be required if student has not had equivalent courses or professional experience prior to entry into the graduate program. Undergraduate deficiency courses may be required dependent upon assessment of departmental graduate admissions committee.)

- REC 401-3 Fundamentals of Environmental Education

REC 423-3 Environmental Education
Total core hours: 28
Elective hours: 11
Total hours required: 36

THERAPEUTIC RECREATION CONCENTRATION

Theory Core

REC 500-3 Principles of Recreation
REC 520-3 Park and Recreation Management
REC 524-3 Professional Skills in Therapeutic Recreation
REC 526-3 Professional Issues in Therapeutic Recreation
GUID 506-4 Inferential Statistics

Research Methodology Core (select one)

REC 550-3 Research in Recreation
EDL 500-3 Education in Research Methods
REHAB 593-3 Research in Rehabilitation

Research Core

REC 599-3 Thesis

Other (May be required if student has not had equivalent courses or professional experience prior to entry into the graduate program. Undergraduate deficiency courses may be required dependent upon assessment of departmental graduate admissions committee.)

REC 460-3 Therapeutic Recreation
REC 461-3 Program Design and Evaluation
REC 462-3 Facilitation and Leisure Counseling Techniques
REC 596-3 Internship

Total core hours: 22
Elective hours: 14
Total hours required 36

Rehabilitation Institute

In response to pressing human and social needs, the applied field of rehabilitation has solidly entrenched itself as a professional discipline. Multidisciplinary courses of study have been drawn together from the behavioral, social, and medical sciences appropriate to the development of competent practitioners, supervisors, and programmers in rehabilitation and welfare agencies. The overall program is left purposely broad and flexible to permit the inclusion of training innovations and emerging career patterns.

The Rehabilitation Institute offers graduate programs leading to the Doctor of Rehabilitation degree and to a Master of Arts or a Master of Science degree with majors in behavior analysis and therapy, rehabilitation administration and services, and rehabilitation counseling.

The Master's Degree Program

The master's degree programs in rehabilitation administration and services, behavior analysis and therapy, and rehabilitation counseling are 45 semester hour programs. The distinction between the M.A. and M.S. degrees is one of demonstrable research performance. Candidates for the M.S. degree concentrate primarily on preparation for entry into the helping profession, and ordinarily they complete a project or research paper in their area of concentration. The M.A. degree requires a thesis of an experimental nature, in which candidates demonstrate their skills in formulating researchable questions, in identifying and manipulating experimental variables and in the analysis and the judicious reporting of the data.

BEHAVIOR ANALYSIS AND THERAPY

The behavior analysis and therapy program is a 45 semester hour program leading to either an M.A. or M.S. degree. Formal training is offered in behavior analysis and behavior therapy with focus on populations and settings such as mental retardation, emotional disorders, child behavior, sexual problems, behavioral medicine, child abuse and neglect, biofeedback, and consumer and management-related issues.

Degree Requirements

In fulfilling the 45 semester hour requirement, the student must complete the required courses and at least 18 semester hours of didactic course work in behavior analysis and therapy as described below.

The internship is usually completed following the first spring or during the second fall. Some students seek external internships (out of Southern Illinois area). To qualify for one of these internships, students must complete all other program requirements including the thesis before leaving for an external internship.

REQUIRED COURSES

Asterisks indicate didactic behavior analysis and therapy courses.

*503-3 Basic Behavior Analysis, taken first fall

*509a-3 Scientific Methods in Behavior Analysis, taken first fall

509b-3 Scientific Methods in Behavior Analysis, taken first spring

*535-3 Behavioral Observation Methods, taken first fall

512-3 Legal and Ethical Issues in Behavior Analysis

589-1 Professional Seminar in Behavior Analysis and Therapy, taken first fall and spring

594b-3 Practicum in Behavior Analysis and Therapy

595-8 to 12 Internship in Rehabilitation

599 or 593-3 to 6 Thesis or Research Paper

ELECTIVE COURSES

Asterisks indicate didactic behavior analysis and therapy courses.

508-3 Complex Behavior Analysis

*554-3 Behavior Therapy

*543-3 Child Behavior

*568-3 Sexual Behavior and Rehabilitation

*545-3 Behavior Modification in Mental Retardation

*515-3 Behavioral Applications to Medical Problems

*574-3 Staff Training and Development

*557-2 to 6 Self Regulation of Behavior

563-3 Behavioral Analysis: Community Applications

*564-3 School Related Behavior

594b-3 Practicum in Behavior Analysis and Therapy

THESIS OR RESEARCH PAPER

M.A. Degree. This degree requires that one receive an S grade for 3-6 hours of REHAB 599. The thesis will be reviewed both prior to its initiation (as a prospectus) by a 2 member committee, and following its completion (in an oral defense) by a 3 member committee made up of a chair and at least 1 additional member. One other graduate faculty member, who may be from within the behavior analysis and therapy faculty, drawn from outside the faculty of the behavior analysis and therapy program, will serve as reader and attend the final review meeting.

M.S. Degree. This degree requires that one receive a passing letter grade for 1-6

hours of REHAB 593. The research paper will be accomplished under the supervision of one of the faculty of the behavior analysis and therapy program.

REHABILITATION ADMINISTRATION AND SERVICES

Students receive their degrees in rehabilitation administration and services, but may elect to pursue concentrations in administration, services, or a double concentration. Students with less than 3 years of rehabilitation or related work experience are generally encouraged to pursue a services concentration or double concentration. All students must complete a minimum of 45 semester hours of graduate course work, which includes a full-time internship and a research project or thesis. During the first semester of full-time study or a comparable period for part-time students, the student must have a plan of study approved by an adviser and the degree program coordinator. This plan of study normally includes rehabilitation core, professional core, and elective course work, although specific plans may differ for students with varying backgrounds and career goals. The requirements are as follows:

Rehabilitation Core (21 hours)

REHB 400-3 Introduction to Rehabilitation

REHB 513-4 Medical and Psychosocial Aspects of Disability

REHB 594A-3 to 6 Practicum in Rehabilitation

REHB 595-8 to 12 Internship in Rehabilitation

REHB 593-3 Research in Rehabilitation

or

REHB 599-3 Thesis

Professional Concentrations

The student must complete a series of courses approved by the student's faculty adviser and degree program coordinator. This series of courses will normally consist of a 15-hour professional core and 9 hours of electives. Electives are chosen on the basis of their relevance to the declared professional concentration. Students taking double concentrations will normally take two 15-hour professional cores and no electives. Persons graduating with concentrations in vocational evaluation or adjustment services are immediately eligible to sit for the CCWAVES examination.

REHABILITATION ADMINISTRATION CORE

570-3 Rehabilitation Administration

573-3 Programming, Budgeting, and Community Resources

576-3 Development and Supervision of Rehabilitation Employees

578-3 Program Evaluation in Rehabilitation

582-3 Seminar in Rehabilitation Services

VOCATIONAL EVALUATION CORE

431-3 Assessment Procedures in Rehabilitation

436-3 Vocational Evaluation and Adjustment Services

531-3 Individual Assessment Procedures in Rehabilitation

533-3 Vocational Appraisal

583-3 Seminar in Work Evaluation

ADJUSTMENT SERVICES CORE

406-3 Introduction to Behavior Analysis and Therapy

436-3 Vocational Evaluation and Adjustment Services

452-3 Behavior Change Applications

523-3 Job Restructuring for the Handicapped

525-3 Developing Job Readiness

JOB DEVELOPMENT AND PLACEMENT CORE

421-3 Vocational Development and Placement

525-3 Developing Job Readiness

586-3 Seminar in Job Development

BA450-3 Marketing Concepts

BA543-3 Personnel Management

Practicum and Internship Requirements

Although students are usually required to complete at least 3 to 6 semester credit hours of practicum as well as a full-time internship, prior and concurrent work experience may be substituted for these requirements if recommended by the student's adviser and approved by the rehabilitation administration and services faculty. The options available to the student wishing to substitute work experience for either practicum or internship requirements are as follows.

Option One. The student may request a waiver of the internship requirement and, if approved, substitute 3 semester credit hours of practicum and additional course work to bring the student's program up to the required 45 hour minimum.

Option Two. Students with extensive previous work experience in the field of rehabilitation may request waivers of both the practicum and internship requirements. If the waiver is approved, they will enroll in 6 semester hours of REHAB 494, Work Experiences in Rehabilitation, and additional graduate course work up to the required 45 hour minimum.

Waiver requests related to options one and two above must be submitted by the student through the faculty adviser to the coordinator of the rehabilitation administration and services program and must be approved by a vote of the rehabilitation administration and services faculty. Waiver requests must include written documentation of the reasons for the request and provide sufficient supporting evidence. Suggested guidelines for the appropriateness of each of the options are: 1) option one for the student with 3 or more years of satisfactory rehabilitation related work experience and 2) option two for the student with 3 or more years of satisfactory work experience directly related to the student's chosen professional course sequence. The student with minimal or no rehabilitation related work experience will be expected to complete the required 3 to 6 semester hours of practicum and a full-time internship.

Research Paper/Project or Thesis and Comprehensive

The student seeking the M.S. degree is required to complete a scholarly research paper or project in a rehabilitation related area and an oral or written comprehensive examination. The student seeking the M.A. degree is required to complete a graduate thesis in a rehabilitation related area and defend it before a thesis committee, an oral or written comprehensive examination, and in addition, an approved course in research statistics or research design.

REHABILITATION COUNSELING

The focus of the major in rehabilitation counseling is the training of competent professionals for the broad field of rehabilitation. The trained professional counselor must demonstrate competencies in establishing counseling relationships, case evaluation, assessment procedures, vocational placement, as well as have an awareness of professional and community resources that can be utilized in the rehabilitation process. Therefore, this master's level training program has 3 goals:

- a. Preparation of professionals who can provide effective rehabilitation coun-

selling service to facilitate the person with a disability in their growth in personal, social, and vocational areas.

b. Training individuals to maximize their professional skills through an integration of the theoretical and applied basics of rehabilitation.

c. Preparation of professionals who can provide leadership in the application and delivery of rehabilitation services.

This professional preparation program is based on nationally defined needs for rehabilitation counselor training and has been accredited by the Council on Rehabilitation Education. Upon completion of the program graduates are eligible to apply (via examination) for certification as rehabilitation counselors (C.R.C.).

The overall objective of this program is to provide students with the opportunity for professional development with the skills and knowledge necessary to meet effectively the many challenges in rehabilitation.

General Requirements

To meet these goals, the rehabilitation counseling program requires a minimum of 45 semester hours of graduate work leading either to a M.A. or M.S. degree. The M.A. degree requires a formal thesis and oral examination, while the M.S. specifies a research paper, and the oral examination is optional. Both M.A. and M.S. degrees require the satisfactory passing of a comprehensive examination. Further, all students after completing the majority of their didactic and experiential course work are required to satisfactorily complete a 3 month full-time supervised counseling internship in an approved rehabilitation setting.

Core Course Requirements

While there is sufficient flexibility in the curriculum so that special interest can be pursued by students through field training assignments, seminars, and the internship assignment, the following core requirements must be met:

- REHB 400 Introduction to Rehabilitation
- REHB 421 Vocational Development and Placement
- REHB 431 Assessment Procedures in Rehabilitation
- REHB 451 General Rehabilitation Counseling
- REHB 501 Rehabilitation Foundations
- REHB 513 Medical and Psycho-Social Aspects of Disability
- REHB 594c Practicum in Rehabilitation
- REHB 595 Internship in Rehabilitation

Students often specialize in working with particular disability groups, e.g., mentally retarded, emotionally disturbed, physically disabled, public offender, the elderly.

ALCOHOL SPECIALIST CONCENTRATION

The program in rehabilitation counseling includes the concentration of alcohol specialist. The objective is to prepare rehabilitation counselors who will have the knowledge and skills needed to serve the alcoholic populations and their families and other affected persons.

The student in this concentration will meet all the requirements for the M.A. or M.S. degree in rehabilitation counseling.

DOCTOR OF REHABILITATION

The doctoral program in rehabilitation prepares students to function effectively as rehabilitation educators, researchers, or administrators. It does this by fostering the student's development and acquisition of relevant conceptual and experiential skills in evaluation and research methodologies, in rehabilitation service, or in the management of service units.

Admission and Retention Standards

All applicable policies and procedures of the Graduate School with regard to the admission of doctoral students will be followed. Requirements for admission to the doctoral program in rehabilitation exceed those of the Graduate School. The admissions committee of the doctoral program will review all candidates carefully for their special strengths. The following will be considered for all candidates.

1. High academic achievement (normally indicated by a grade point average of 3.5 on a 4-point scale) in a master's program in rehabilitation or a closely related field at an accredited university.
2. Knowledge of, and interest in conducting, rehabilitation research.
3. Two years of successful performance equivalent to fulltime paid employment (post-baccalaureate) in a rehabilitation or related professional position. This may include an approved internship experience at the master's level.
4. At least three letters of recommendation by professional persons who are familiar with the applicant's performance in academic, research, or service work settings.
5. A personal or telephone interview with the Rh.D. program admissions committee.
6. GRE scores dating back no farther than 5 years.

Applicants will be considered for acceptance into the doctoral program at the beginning of either the fall or spring semester. For a student to be retained in the program, a 3.5 overall grade point average (GPA) must be maintained. Courses in which a grade below *B* is obtained will not be counted toward satisfying the hour requirements for the degree.

Doctoral Committee

The student shall select a chair who will serve as the major adviser. In consultation with the chair the student shall select a doctoral committee which is approved by the coordinator of doctoral studies and the Graduate School. At least one member shall be external to the Rehabilitation Institute.

Working together with the chair, the student shall develop a plan of study, designating the courses to be completed. This plan shall be approved by the student's doctoral committee and by the coordinator of doctoral studies and then shall be made a matter of record. Further, the doctoral committee shall serve as the student's dissertation committee.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon the recommendation of the faculty responsible for the student's program after the student has fulfilled the Graduate School residency requirement for the doctoral degree and passed the preliminary examinations.

The written preliminary examinations are designed to assess the breadth and depth of the student's knowledge. They are prepared, administered, and evaluated by Rehabilitation Institute faculty committees appointed by the coordinator of doctoral studies. The preliminary examinations will ordinarily be taken in the spring of the second year of doctoral study.

Dissertation

After admission to candidacy, the student will prepare a dissertation based on original research conducted under the direct supervision of the dissertation chair and committee. The requirements of the Graduate School will govern the formation of the dissertation committee and the preparation and defense of the dissertation. While the dissertation is in preparation, the student will register for no fewer than 24 semester hours in REHAB 600, Dissertation. The dissertation

should conform to the current edition of the *Publication Manual of the American Psychological Association* and the standards required by the Graduate School.

Degree Requirements

The Doctor of Rehabilitation program emphasizes mastery of skills in research methodology, knowledge of human behaviors, and competencies in the areas of rehabilitation philosophy, policies, and practices. The course of study requires a minimum of 96 post-baccalaureate semester hours, 24 of which are dissertation hours and 34 of which fulfill the core area requirements below.

Core Areas with Required Minimum Hours

Asterisked courses are required unless waived by the Rh.D. program requirements committee.

RESEARCH DEVELOPMENT AND UTILIZATION (MINIMUM 17 HOURS)

- EPSY *506-4 Inferential Statistics
- EPSY *507-4 Multiple Regression
- REHB *509a-3 Single Subject Experimental Designs
- REHB *509b-3 Group Experimental Designs
- REHB *588-3 Seminar in Research in Rehabilitation
- REHB 504-3 Foundations of Rehabilitation Research

SEMINAR ON PROFESSIONAL ISSUES AND METHODS IN REHABILITATION (MINIMUM 12 HOURS)

- REHB 573-3 Programming, Budgeting, and Community Resources
- REHB 574-3 Staff Training and Development
- REHB 578-3 Program Evaluation in Rehabilitation
- REHB *581-3 Legal and Ethical Issues
- REHB 587-3 Seminar in Correlates of Disability
- REHB *589-3 Professional Seminar in Rehabilitation

The student's preparation at the master's level will be evaluated and up to 30 hours of didactic course work may be accepted toward the completion of the 96 hour minimum requirement for the doctorate. Master's level didactic courses in rehabilitation counseling, rehabilitation services, rehabilitation administration, and applied behavior analysis and therapy will usually be acceptable. Course work in related areas such as counseling, psychology, and social work may qualify.

The goal of the program is to develop high quality professionals. Thus, the student must demonstrate competence in the areas of rehabilitation services offered by the Rehabilitation Institute. This is accomplished through the student's master's degree program, previous work experience, the doctoral core requirements, supervised professional experiences, and electives. Rh.D. degree graduates should be well prepared for leadership roles in the areas of rehabilitation administration, service, education, or research.

Social Work

The School of Social Work offers graduate work leading to the Master of Social Work degree. Candidacy status for accreditation review by the Council of Social Work Education was granted July 25, 1985.

Master of Social Work

The Master of Social Work degree program offers preparation for professional social work practice. The organizing principle of the M.S.W. program is the improvement of the quality of individual life through the enhancement of social and economic justice and opportunity. Upon completion of the MSW program, the

student will acquire knowledge, values, and skills consonant with the social work profession and be capable ultimately of engaging in autonomous social work practice. Graduates with such preparation will be able to effectively deliver the social services needed to meet human needs in both urban and rural areas.

Students in the first year take foundation curriculum. The second year of study provides an opportunity for focused study at an advanced level in either health/mental health or child welfare. The school also offers course work in preparation for school social work certification by the Illinois State Board of Education. The first year foundation curriculum consists of 30 credit hours and includes the following courses.

FALL (15 CREDIT HOURS)

SW 500-3 Human Behavior and the Social Environment I

SW 504-2 Ethnic Diversity and Social Work Practices

SW 505-3 Foundations of Social Work and Service

SW 510-3 Social Work Practice I

SW 541-4 Social Work Practicum I

SPRING (15 CREDIT HOURS)

SW 501-3 Human Behavior and the Social Environment II

SW 506-2 Social Welfare Policy Analysis and Design

SW 511-3 Social Work Research

SW 520-3 Social Work Practice II

SW 542-4 Social Work Practicum II

In each year of study, in addition to classroom work, students are required to take field practicum. Applied learning through field practice is an integral component of social work education. Field instruction provides the student with opportunity for applying social work theory and conceptual learning to realistic and practical situations. Students may not substitute current or past, paid or volunteer, social work experience for field practicum requirements of the M.S.W. program.

Admission Requirements

Applicants may be considered for the regular two year program if they hold a bachelor's degree from an accredited college or university with an overall grade point average of at least 2.7 on a 4.0 scale and a grade point average of at least 3.0 in the last 2 years of academic course work, excluding field practicum and experiential classes. In addition it is expected that applicants will have a broad liberal arts base with a substantial preparation in the social and behavioral sciences, human biology, and in the humanities.

Applicants who wish to be considered for advanced standing must meet all criteria noted above, with the addition of a bachelor's degree in social work from an accredited program.

Applicants admitted for either the basic two-year program or for advanced standing may be required to take additional courses as a condition of admission.

A reduced-load program is available for a limited number of students with or without a B.S. degree in social work, who are either fully employed or prefer to take fewer than 3 courses per semester. This program requires a minimum of 2 consecutive semesters of full-time residency as defined by the University (e.g., fall-spring, spring-summer, or summer-fall). Entry is in the fall semester for students without a B.S. degree in social work and in the summer for students with a B.S. degree in social work from an accredited program.

Requests to change from full-time to full-time reduced-load status requires prior approval of the director.

Graduate Record Examination (GRE) scores are required. Documented potential

for the profession of social work is considered a part of the admission criteria which may also include an interview prior to acceptance.

Each application will be individually reviewed; however, meeting all stated criteria will not automatically guarantee admission to the school.

The deadline for applications is March 1st for both summer term (advanced standing admission) and fall (regular admission) semester.

Applicants must apply to both the Graduate School and the School of Social Work.

Degree Requirements

Students admitted to the basic two-year program are required to complete the first year foundation curriculum and the second year advanced curriculum. They are required to complete a minimum of 60 semester hours of graduate course work.

Students with a bachelor's degree in social work from an accredited program may be admitted with advanced standing. These students are required to complete 9 semester hours of transition courses and a minimum of 30 semester hours of the second year graduate course curriculum.

Within limits imposed by the policies of the Graduate School of the University, transfer credits will be permitted for up to 15 semester hours for applicants who wish to transfer from another graduate program in social work.

Candidates must maintain a 3.0 on a 4.0 scale. They must also successfully complete a substantive research paper and demonstrate through oral examination the interrelatedness of their product to social work practice and to social policy issues in the field of social welfare.

Student Advisement

Upon admission to the Master of Social Work degree program, the student will be assigned a faculty adviser. The adviser is responsible for supervision of the student's progress and is available for career counseling as well as assisting in other matters which might arise in connection with the student's work.

Financial Aid

The program offers limited financial assistance through graduate assistantships. Other scholarships, grants-in-aid, etc., may be applied for through the Graduate School, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Sociology

The Department of Sociology offers graduate work leading to the M.A. and Ph.D. degrees. The M.A. degree program provides students with the opportunity to acquire a general knowledge of sociology through courses and seminars which illustrate a variety of approaches characterizing the discipline. The Ph.D. degree program is centered around advanced offerings in the areas of theory-methodology, deviance, family, social stratification, and social change. The faculty of the department is research-oriented and supports such an orientation on the part of its students. The department maintains a small library and computer facility.

Admission to Graduate Study in Sociology

The department requires an undergraduate GPA of 3.0 for admission to the M.A. degree program and a graduate GPA of 3.5 for admission to the Ph.D. degree program. Reference letters and transcripts of all undergraduate and graduate academic grades must be submitted to the department for review by the graduate admissions committee. Scores from the Graduate Record Examination are welcome. International students must achieve 550 or better on TOEFL scores. Persons

seeking more information should write: Director of Graduate Studies, Department of Sociology, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Graduate Assistantships and Fellowships

Assistantships for qualified students are available through the department on a competitive basis. Upon nomination by the University's academic departments, the Graduate School awards various fellowships in University-wide competition. Students funded through the department are required to enroll in 3 courses each semester, taking no more than 1 audit and 1 individual readings course each academic year. Funding is limited to 4 semesters for M.A. degree students and 8 semesters for Ph.D. degree students.

Master of Arts Degree

The Master of Arts degree in sociology requires a minimum of 32 semester hours of course work and a research paper. The specific course requirements are SOC 501, Classical Sociological Theory; SOC 512, Sociological Research; SOC 526a, Quantitative Methods in Sociology; 3 research seminars in sociology; 1 additional 400 or 500 level course in sociology; 1 additional 400 or 500 level course in sociology; and 4 credit hours in SOC 591, Individual Research (for completion of the master's degree research paper). The director of graduate studies serves as academic adviser for all M.A. degree students.

Master's Research Paper. The research paper is developed from a seminar paper produced in a 500-level sociology course. Students wishing to do a master's research paper on a topic not covered under the seminar offerings can petition the department's graduate studies committee for an exception to this rule. The faculty member in charge of the seminar will also serve as the adviser for the master's research paper. Students will enroll with this faculty member for 4 credit hours in SOC 591, Individual Research, for the completion of the research paper. This course can be taken concurrently with or subsequently to the research seminar. The research paper will then be submitted for evaluation to another faculty member appointed by the director of graduate studies, in concurrence with the faculty adviser for the paper. The master's research paper normally is 20 to 40 pages in length and uses the standard ASA reference style. In addition to the copy required by the Graduate School, 1 suitably bound copy must be deposited in the department library.

Early Admission to the Ph.D. Degree Program. Upon completion of 2 semesters of full-time study, a student may petition to waive the M.A. degree and be admitted to the Ph.D. degree program in sociology, if the following conditions have been met: 1) minimum GPA of 3.7 during the first year of study; and 2) departmental approval of a research paper completed during the first year of study. The procedure and standards for approval of the paper are the same as with the regular master's research paper.

Doctor of Philosophy Degree

Advisement. The responsibility for initial advisement rests with the director of graduate studies. As soon as a tentative general plan of study has been worked out, the director of graduate studies, in consultation with the student, will request an appropriate member of the graduate faculty of the department to serve as the student's individual academic adviser.

It is the student's responsibility to develop, in consultation with the adviser, a plan of study designating the primary and secondary areas of examination. At this point, the student expresses a preference for a program committee of 3 or 4 members representing the chosen areas of examination. After consultation with the appropriate faculty the director of graduate studies appoints the student's pro-

gram committee and enters the membership of the committee in the student's records, along with the declared primary and secondary areas of examination.

Research Tool Requirement. Doctoral students must complete the following courses: SOC 501, 502, 512, and 526a,b, or furnish proof of equivalent work at the M.A. degree level. The director of graduate studies will determine questions of equivalencies. In addition to these courses students must develop research skills that are appropriate and necessary for their dissertation research. It is the responsibility of the student's program adviser to supervise the student's development of these research skills.

Areas for Comprehensive Examination. All students must declare 2 primary areas for the comprehensive examination (one of which must be sociological theory-methodology) and 2 secondary areas of examination. At present the department regularly offers lecture courses and seminars in the following primary areas of examination: theory-methodology, deviance, sociology of the family, social stratification, and social change. For their secondary areas of examinations, students may select from those areas just listed, or from the following: gender, demography, education, formal organizations, political sociology, medical sociology, social psychology, and quantitative methods.

Other areas of examination may be offered in particular cases as student needs arise and faculty resources permit. Approval of a special area of examination must be obtained from the graduate studies committee at least 1 semester before the intended date of examination.

One secondary area may be chosen in a department other than sociology. The student shall in this case meet the requirements for a Ph.D. secondary field in the department concerned. Relevance of the outside area to the student's total program must be demonstrated, and approval must be obtained from the graduate studies committee.

Course Work and Readings. In addition to the regularly offered courses and seminars the department provides supervised readings and research courses, depending upon the availability of faculty members. Supervised readings and research courses are not to be taken as substitutes for regularly scheduled courses and seminars, and registration in them requires prior approval by the student's adviser.

Preparation of a Readings List. Students are expected to prepare themselves for comprehensive examinations through course work and reading. Students must develop, with the assistance of their program committees, a readings list covering the students' examination areas. This readings list must include major works in each of the examination areas. It must also include the most recent works pertinent to the students' anticipated dissertation research. The readings list as a whole must be prefaced by a statement of purpose providing a rationale for the selected titles. The final list must be approved, in formal session, by the students' program committee, no later than the end of the students' third semester in residence.

Comprehensive Examinations. To qualify for the status of candidate for the Ph.D. degree, the student must pass written comprehensive examinations. Examinations are based on the final readings list as approved by the student's program committee. The comprehensive examinations consist of a six-hour exam in each of the 2 primary areas and 3 hours in each of the 2 secondary areas.

The examinations are prepared, administered, and evaluated by the student's program committee, supplemented by other members of the graduate faculty, in order to provide at least 2 readers in each of the major and minor areas. The chair

of the program committee also serves as chair of the examination committee. Supplementary members of the examination committee are, upon the recommendation of the program committee's chair, appointed by the director of graduate studies.

The comprehensive examinations must be taken during the full-time student's fifth semester in the program. The student may take all exams in either the fourth or the twelfth week of the semester, or opt to take theory-methodology and 1 minor exam at the early date, and the rest at the later date. It is the responsibility of the chair of the examination committee, and of the director of graduate studies, to ensure that the examinations are properly prepared, scheduled, administered, and monitored.

Examination results are reported to the director of graduate studies by the chair of the student's examination committee within 2 weeks from the date of the examination, and the director of graduate studies notifies the student of the results. A failed examination in any area must be retaken on the next scheduled date. If an area exam is failed a second time, the graduate studies committee must be petitioned for the privilege of a final retake. The written petition must include the student's diagnosis of the reasons for the failure, and a detailed plan for remedial work. The recommendation of the graduate studies committee is forwarded to the department chair, who has the final decision on the matter. A student is entitled to a combined total of no more than 3 retakes.

On successful completion of the comprehensive examinations, and upon the recommendation of the director of graduate studies to the dean of the Graduate School, the student attains the status of candidate for the Ph.D. degree.

Dissertation. The dissertation is the single most important requirement for the Ph.D. degree, and the student should start thinking about potential dissertation topics soon after admission. Information concerning Graduate School requirements regarding the dissertation is contained in the Graduate Catalog.

After completion of the comprehensive examinations the student selects a dissertation director who must be approved by the department chair and the dean of the Graduate School. In consultation with the dissertation director, the student prepares a detailed dissertation prospectus, showing clearly the purpose and scope of the research, its relation to the previous work in the field, its theoretical relevance and significance, and the research methods and techniques to be used. The prospectus must contain a section documenting the student's training and abilities in using the proposed research methods and techniques. When the prospectus is ready for presentation, the department chair appoints a dissertation committee with the student's dissertation director serving as chair. The dissertation committee shall consist of 5 members, including one from outside the Department of Sociology.

The prospectus must be approved by the dissertation committee in formal session and filed with the graduate program secretary. A prospectus must be approved no later than the end of the student's sixth semester in the program.

The completed dissertation must be acceptable to the chair of the dissertation committee before being circulated among the committee members for evaluation.

Dissertation Defense. After acceptance of the dissertation by the candidate's dissertation committee, an oral examination will be conducted by the committee in open meeting, as specified by Graduate School regulations. This examination will be based upon the contents and implications of the dissertation. The examination may not be scheduled sooner than 4 weeks after the completed dissertation has been distributed to the dissertation committee. A public announcement and a copy of the dissertation shall be made available to other faculty of the department at least one week before the examination. Upon satisfactory completion of the oral examination, the student must submit 2 copies of the dissertation to the

Graduate School and another copy, suitably bound, must be deposited in the department library.

Expected Progress Through the Ph.D. Degree Program.

Semesters 1 and 2: Course work: Minimum grade point average of 3.5; at least four 500-level sociology courses to be taken during the 2 semesters.

Semester 3: Course work and approved reading lists by the end of the third semester.

Semester 4: Course work and intensive preparation for comprehensive examinations.

Semester 5: Comprehensive examinations.

Semester 6: Approved prospectus by the end of the sixth semester.

Semester 7: Dissertation.

Semester 8: Dissertation.

Sociology as a Secondary Emphasis in Another Ph.D. Degree Program. A student who is enrolled in another Ph.D. degree program and who wishes to declare sociology as a secondary area must submit to the director of graduate studies a written request which includes the following: a plan of course work, a personal reading list, and an overall program statement indicating the relationship of the area in sociology to the student's total program. The student will be expected to take a comprehensive examination in the sociology area.

Interdisciplinary Ph.D. Degree Program in Sociology. Students who have been admitted to the Ph.D. degree program in sociology, and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. degree programs only when they bear the endorsement of a department that offers a Ph.D. degree program. A student who wishes to apply for an interdisciplinary program in which sociology will be the sponsoring department should understand that the program of study must include substantial involvement in sociology courses and seminars, and that the department may require the student to meet other requirements similar to those established for the Ph.D. degree program in sociology.

Special Education

The department offers programs leading to the Master of Science in Education degree with a major in special education and to the Doctor of Philosophy degree in education with a concentration in special education.

Master of Science in Education degree

In the master's degree program, which requires a minimum of 30 semester hours for completion, 6 emphases are offered. All are designed primarily for those who are already certified to teach, and who have attained an undergraduate grade point average of at least 2.7 on a 4 point scale. Some of the emphases require prior certification in one area of special education as well. Students desiring entry into the program but lacking appropriate certification may complete the necessary requirements in conjunction with their program. Such students will be advised on certification requirements in the Office of Teacher Education. Applicants with grade point averages less than 2.7 may at the discretion of the departmental faculty be admitted conditionally. They may also be required to complete all or a part of the Graduate Record Examination and to submit the results as a part of their application to the department.

There are 6 emphases open to those seeking a master's degree in special education: (1) coordinator of classes for the preschool handicapped, (2) resource

teacher of the mildly handicapped, (3) teacher of the moderately and severely handicapped, (4) teacher of the severely behavior disordered, (5) teacher of the secondary aged mildly handicapped, (6) special education supervisor. Program requirements for each of these emphases include the following courses: SPE 500-3, 578-3, 580-3, and 599-3 to 6. In addition, they require completion of the courses specified in the explanation of each of the 6 areas of emphasis.

Coordinator of Classes for the Pre-School Handicapped. Those selecting this emphasis will, as a rule, have completed certification requirements in at least one other area of special education, and during the program will complete requirements for approval in the pre-school handicapped area. Upon completion of the program, they will be prepared to work either as classroom teachers or as program coordinators in this area. In addition to the core courses, they must complete: SPE 505-3, 512-3, at least one of 513-3, 514-3, or 515-2, and additional electives selected in cooperation with the graduate adviser.

Resource Teacher of the Mildly Handicapped. Students choosing this emphasis will ordinarily enter the program with certification in at least one area of special education and during the program will find another area of special education certification. Their training will prepare them to work as resource personnel in school programs where mildly handicapped children have been returned to regular classes. In addition to the core courses, they must complete: one of SPE 401-3, or 404-3; 511-3; at least one of 513-3, 514-3, or 515-2; and additional electives selected in cooperation with their graduate adviser to a total of at least 30 semester hours.

Teacher of the Moderately and Severely Handicapped. Students choosing this emphasis will ordinarily have been certified in the area of trainable-severely/profoundly handicapped or behavior disorders, and during their master's degree program will be pursuing an advanced degree of knowledge and expertise. However, persons without a teaching certification are also admitted to this degree program but must complete all course deficiencies. The major objective of this program is to prepare educators to apply systematic instruction technology to the learning and behavioral problems of moderately and severely handicapped persons so that they might function as fully as possible in community life. After completion of this program, graduates will be prepared to directly teach or supervise educational efforts in school, community, domestic, and vocational settings. Program applicants may declare an emphasis in severe behavior disorders or moderate/severe/profound mental retardation. In addition to the core course requirements, students must complete characteristics and methods deficiencies, SPE 550-3, and additional electives selected in cooperation with their graduate adviser. For a student choosing a joint emphasis in mental retardation and behavior disorders, specific departmental and nondepartmental electives may be designed from which the student must choose.

Teacher of the Severely Behavior Disordered. Students choosing this emphasis will ordinarily have been certified in the area of behavior disorders, and during their master's degree program will be pursuing an advanced level of knowledge and expertise. Persons without a teaching certificate are also admitted to this degree program, but must complete all course deficiencies. The major objective of this program is to prepare educators to apply systematic instruction technology to the learning and behavioral problems of severely handicapped persons so that they might function as fully as possible in community life. After completion of this program, graduates will be prepared to directly teach or supervise educational efforts in school, community, domestic, and vocational settings.

In addition to the core course requirement, students must complete characteris-

tics and methods deficiencies, SPE 501-3; 550-3; and additional electives selected in cooperation with their graduate adviser. For a student choosing a joint emphasis in mental retardation and behavior disorders, specific departmental and nondepartmental electives may be designated from which the student must choose.

Teacher of Secondary Aged Mildly Handicapped. Teachers with this emphasis will be expected to have a bachelor's degree in special education. At the conclusion of this program the students will be qualified to teach secondary aged mildly handicapped youths in a variety of public and private school settings. In addition to the core courses, the students must complete: SPE 516-3, 519-3, and EPSY 402-3, and at least 9 hours from either vocational education studies, administration of justice, Rehabilitation Institute, or some combination of the above. The students' academic programs are planned in consultation with their adviser on the basis of interest and experiences.

Special Education Supervisor. Students choosing this emphasis will enter the program with certification in at least one area of special education and a minimum of 2 years teaching experience in their area of certification. Upon successful completion of the program, the students will be eligible for supervisory certification in the special education area of teaching experience. The program has as its purpose the training of effective instructional leaders. In addition to the core courses, they must complete: EAHE 501-3, 503-3, 517-3 or 519-3, 511-3 or C&I 531-3 or C&I 571-3, SPE 513-3, 514-3, and additional electives selected in cooperation with their graduate adviser to a total of at least 32 semester hours.

Research requirements for the master's program are as follows:

1. The student must successfully complete SPE 500-3, and then SPE 599-2 to 6 during which the thesis is completed.
2. The student must successfully defend the thesis in an oral examination conducted by the student's committee chair and 2 additional committee members.

A comprehensive examination over the field of special education is also required and conducted by the student's committee chair and 2 additional committee members.

All full-time graduate students in the department may be required to work a maximum of 5 hours per week in departmental activities as a part of their professional development.

Doctor of Philosophy Degree in Education

The Department of Special Education participates in the doctoral program in education with a concentration in special education. Inquiries regarding application should be directed to the chair of the department. See the description of the Ph.D. degree in education.

Speech Communication

At a time when many speech communication departments are staffed by individuals representing the same school of thought, our department has a healthy diversity of outlooks and approaches. Nevertheless our diversity has not prevented the development of an exceptionally supportive interpersonal climate. While we argue about a great many issues, we are committed as colleagues to effective teaching and productive scholarship. We believe that our students share these commitments, and we are most anxious to recruit students who want to study in such an environment.

Our facilities include a superior laboratory for oral performance studies, the Calipre stage, computer terminal laboratory room, video tape laboratory, library,

and research carrels all housed in the department. We offer graduate assistants the opportunity for independent teaching experiences as well as the usual support duties as teaching and research assistants. All graduate students are eligible for training experiences through internships in business, governmental, and political organizations.

Financial Assistance

There are several forms of financial assistance available to graduate students in the Department of Speech Communication. First, there are graduate fellowships awarded on the basis of superior scholarship, which do not require any departmental service. Second, there are several special fellowships offered annually to students who show promise of success in graduate studies even though their academic records have been only average because of economic or social disadvantages. These special fellowships have no service requirements. Third, there are graduate assistantships available which require up to 20 hours per week of service in teaching or research. Finally, there are dissertation research awards for students in their final year of work toward the Ph.D. degree.

The stipends for the above awards currently range from \$5976 to \$6372 for the 9 month academic year depending on the level of graduate study of the appointee and the type of appointment. These rates may be increased for the forthcoming year. All the appointments, fellowships, and assistantships, also include a waiver of tuition (both in-state and out-of-state) for the student, although the student is responsible for student fees. Students who hold assistantship appointments for 2 consecutive semesters also receive a tuition waiver for the following summer session, and a limited number of appointments pay stipends for summer assignments as well.

Applications for financial assistance may be obtained by writing: Director of Graduate Studies, Department of Speech Communication, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. Completed applications for fellowships should be received by February 1 for appointment during the subsequent fall semester. Applications for fall semester assistantships should be received by March 1.

The Department of Speech Communication offers 3 graduate programs of instruction and research in the discipline of human communication leading respectively to the Master of Arts, Master of Science, and Doctor of Philosophy degrees.

Curriculum. The graduate faculty of the department offers curriculum areas in communication education, interpersonal communication, philosophy of communication, performance studies, and (at the doctoral level) theater as well as course work in intercultural communication (including semiotics), organizational communication and public relations, political communication, and rhetoric and public address.

Admissions. Applicants must meet the minimum requirements of the Graduate School and should have completed a minimum of 24 quarter or 16 semester credit hours in speech or related subjects. A program for remedying deficiencies in background can be arranged upon petition to the graduate committee of the Department of Speech Communication. In some instances applicants will be accepted for direct entry from the baccalaureate to the doctoral program when the graduate committee identifies high achievement and potential in the applicant's undergraduate work. Master's degree students seeking the Ph.D. degree should make application when they are within 16 hours of completing the degree.

Application for admission to graduate studies in speech communication should be directed to the director of graduate studies of the Department of Speech Communication. The GRE Aptitude Test is not required as a condition for admission but is strongly recommended. In some cases it may be requested to

support application materials. Except for persons from English-speaking countries, international students are required by the department to have a TOEFL score of 600 or higher for admission. In addition to materials sent to the Graduate School, each applicant should submit to the Department of Speech Communication three recommendations from former instructors and an application form indicating professional and personal objectives. In addition, applicants for the Ph.D. degree program may be requested to furnish a thesis or research paper as evidence of research and writing ability.

Acceptance for graduate study in speech communication and subsequent continuation in the graduate program is determined by the graduate committee of the Department of Speech Communication. Students who are awarded graduate assistantships to provide assistance in the instruction of the department are required to take SPCH 539 if they have not had previous teaching experience at the secondary, college, or university level; the course is strongly recommended for all students planning careers in university teaching.

Research Style. In most cases graduate students are required to write a term research paper for each course taken; and, depending on the degree program, each student is required to write a research report, thesis, or dissertation. In all cases the writing must conform to the latest edition of *The MLA Style Manual* or the *APA Publication Manual*, depending on the nature of the research. In all cases the writing must conform to the current edition of the *Graduate School Guidelines for the Preparation of Research Reports, Theses, and Dissertations*.

Master's Degree Programs

A minimum of 30 semester credit hours is required for the M.A. or M.S. degree. At least 15 of these hours must be at the 500 level. A student who completes only the minimum of 30 hours of work may devote no more than 9 hours to work outside the Department of Speech Communication. However, a student may petition the graduate committee for a program to include 15 hours outside the department. Such outside work must be germane to one of the departmental curriculum areas for purposes of research and examination. Competence in one foreign language is required for the M.A. degree. Competence may be demonstrated by (1) E.T.S. examination, (2) achieving a grade of *B* or *A* in FR 488, GER 488, RUSS 488, or SPAN 488, or (3) achieving a passing grade in other approved foreign language courses on campus, a list of which is available in the department office. Current standards for passing the E.T.S. examination in French, German, Russian, or Spanish are available from the director of graduate studies.

A faculty adviser is named for the individual student before the end of the first semester. The faculty adviser and the student will plan the program of study. The program must consist of course work in at least 3 curriculum areas. In order to satisfy a given area of study, a student must complete at least 6 semester hours of work in that area. A course used for one curriculum area may not be counted toward another area. A comprehensive written examination is taken during the last semester of study.

The requirements for the master's degree may be met by either of the following plans chosen by the student in consultation with the adviser.

Plan 1: Thesis. Each student must complete a minimum of 30 semester credit hours, with no more than 6 hours or fewer than 3 hours of thesis credit in SPCH 599 counted toward the 30 hour minimum. In addition, the student must register for at least one semester hour of credit in SPCH 599 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the thesis. If the student's reliance upon faculty assistance justifies, the director may require an appropriately greater number of credit hours in SPCH 599. The thesis is submitted to a committee of 3 members of the

graduate faculty, at least 2 of whom must be from the Department of Speech Communication. The committee must approve the prospectus and will administer an oral examination over the thesis. Students are required to submit 2 copies of the thesis to the Graduate School, one copy to the Department of Speech Communication, and one copy to the thesis director.

Plan 2: Research Report. Each student must complete a minimum of 30 semester credit hours, with no more than 3 hours or fewer than 1 hour of research report credit in SPCH 595 counted toward the 30 hours minimum. A research report is submitted as evidence of research competence. This paper should be based on a special project or specific courses as recommended by an advisory committee composed of the student's adviser and one other member of the graduate faculty in the Department of Speech Communication selected by the student and the adviser. This advisory committee must approve the research paper before it is submitted to the graduate committee and, then, to the Graduate School. One copy of the research report is submitted to the Graduate School, one copy to the Department of Speech Communication, and one copy to the adviser.

The subject of the thesis or research report must be in one of the curriculum areas chosen by the student. A student must have a graduate grade point average of 3.25 in order to be eligible for the master's degree.

Doctor of Philosophy Degree

A minimum of 42 semester credit hours of course work plus 9 hours of methodology (tool) courses beyond the master's degree and 24 semester credit hours of dissertation work are required for the Ph.D. degree. Course work outside the department must be germane to one of the departmental curriculum areas for purposes of examination and dissertation research. Throughout the program of study, the student must maintain a 3.25 grade point average in all work taken. If the grade point average drops below the minimum, the student is placed on academic warning for the following two semesters.

During the last half of the second semester of course work, the student's progress shall be reviewed by the advisory committee to determine continuation, change, or termination of the program. The advisory committee for each student shall be responsible for assembling the necessary information (grades, recommendations, progress in curriculum areas, etc.) for consideration in reaching the above decision.

Advisory Committee. A 3 person advisory committee shall be established during the first semester of graduate study to plan the program of study with each student. The chair of the committee shall act as the primary adviser and sign the graduate course request form. This advisory committee is responsible for certifying to the graduate committee that the student has met all departmental requirements for admission to candidacy and has passed the Ph.D. preliminary examination.

The advisory committee and the student will plan the program of study. The program of study focuses on at least one curriculum area. All students are required to take SPCH 501, Introduction to Speech Communication Research and SPCH 510, Rhetoric and Communication. Also students must take a minimum of 9 hours of methodology courses prescribed by the chosen curriculum area. Students selecting theater as a curriculum area must take 18 hours of speech communication courses including SPCH 501 and 510.

Attendance is required at proseminars as part of professional development. Graduate students are encouraged to present their scholarly work.

Preliminary Examination. The student must pass a preliminary examination on each of the declared curriculum areas in the program of study. The preparation and administration of the examination are determined by the advisory committee in consultation with the student. The examination is taken near the end of the course work.

Dissertation. Each student must register for at least 24 semester hours of dissertation credit in SPCH 600 or SPCH 601 or THEA 600 or THEA 601. In addition, the student must register for at least one semester hour of credit in SPCH 600 or THEA 600 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the dissertation. If the students' reliance upon faculty assistance justifies, they may be required by the dissertation adviser to register for an appropriately greater number of credit hours.

The dissertation director shall, upon consultation with the student, be responsible for setting up a dissertation committee, supervising the dissertation, and administering the final oral examination. The dissertation committee shall approve the dissertation prospectus and pass upon the completed dissertation and oral examination. Students are required to submit two copies of the dissertation to the Graduate School, one copy to the Department of Speech Communication, and one copy to the dissertation director.

Interdisciplinary Program. Students who have been admitted to the doctoral program in speech communication and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. programs only when they bear the endorsement of the principal sponsoring department. A student who wishes to apply for an interdisciplinary program in which speech communication will be the principal sponsoring department should understand that the program of study must include substantial involvement with courses in speech communication and that the department may require the student to meet other requirements similar to those established for the doctoral program in speech communication.

Telecommunications

The Master of Arts degree in telecommunications provides advanced professional training for students preparing for leadership positions in radio and television broadcasting, cable television, corporate video, and related fields. Content areas include the structure and organization of broadcast-related industries, mass media theories, economic and management perspectives, emerging new technologies, policy and regulatory issues, content criticism and review, programming innovations, international perspectives, and societal effects. Graduates of the program advance to leadership positions in broadcast stations, cable systems, production houses, corporate and public sector video departments, or teach in colleges and universities.

Admission

A baccalaureate degree is required from an accredited university for admission to the M.A. degree in telecommunications with preference given to those who have studied radio-television. For students coming from non-radio/TV backgrounds or whose preparation is lacking in certain areas, additional undergraduate course work may be required by the graduate faculty. Courses taken to satisfy deficiencies will not be counted towards the M.A. degree. Applicants must submit an application form obtained from the department, transcripts of all undergraduate work, evidence of scholarship such as a research paper, and evidence of proficiency in a foreign language or computer programming. In addition, all applicants must fulfill the requirements for admission to the Graduate School.

Requirements

A minimum of 30 graduate credit hours is required for the M.A. degree in

telecommunications. Of these, 6 hours must be taken in an outside department but related to the student's program and approved by the student's adviser. For example, courses in business administration may be chosen by students focusing their studies in the area of management. A minimum of 18 hours must be successfully completed at the 500 level or above. All students in the program are required to successfully complete R-T 500 Introduction to Research in Telecommunications, R-T 532 Telecommunications Research, R-T 573 Telecommunications Management, R-T 580 Telecommunications Technology. Students are also required to complete selected other 500 level courses in their major.

As a part of the 30 hours required for graduation, each student must select one of two options:

Plan 1. Thesis. Each student must complete a minimum of 30 semester credit hours including a traditional written thesis (R-T 599, Thesis) which counts 3 to 6 hours in the program. An oral examination by the faculty advisory committee is given upon completion of the thesis.

Plan 2. Research report. Each student must complete a minimum of 30 semester hours including an individual research report (R-T 591, Individual Study in Telecommunications) which counts 3 hours in the program. A research report is required which should be based upon supervised research or an independent investigative project approved by the student's advisory committee. An oral examination by the faculty advisory committee is given the student upon completion of the research report.

During the first semester of course work, the student will be appointed a major adviser and a committee of 2 additional graduate faculty members. The committee will work with the student to prepare a specific plan of study. The major adviser will also serve as the director of the student's thesis. In all instances students will be required to pass comprehensive examinations upon completion of course work and prior to work on the thesis.

Retention

A 3.0 grade point average in course work taken at the 400 level and above is required. It is expected that students will be in full-time residence for a minimum of one calendar year. A maximum of 12 hours of relevant transfer credit may be accepted into the student's program.

Theater

The Department of Theater blends scholarship and practice into an academically based theater experience preparing the student for a career in professional, education, or community theater. The extensive production schedule in two theaters—a proscenium house, the McLeod Theater, seating about 500 and a flexible space, the Laboratory Theater, seating about 100—provides training in all aspects of the theater augmented by courses in acting, voice, movement, directing, playwriting, production, design, and technical theater. Courses in theater history, dramatic theory and criticism, aesthetics, and specialized courses, e.g., children's theater and theater management, complement the program. Students in design and playwriting concentrations are required to widen their horizons by appropriate courses outside the department. Seminars in international and ethnic theater and drama coordinated with ongoing research projects enhance the total experience.

The Department of Theater offers a graduate program of study leading to a Master of Fine Arts degree in theater. Doctoral study in theater is sponsored by the Department of Speech Communication. Interested students should consult the description of the program under speech communication.

Admissions

Two sets of forms—one to the Graduate School, another to the Department of Theater—must be submitted by the applicant. All forms should be requested from the director of graduate studies in theater. Applicants for graduate studies in theater must satisfy the minimum requirements of the Graduate School before being admitted to the department, which requires the submission of a personal and professional data form together with 3 letters of recommendation from former teachers or supervisors.

Although an undergraduate major in theater is not essential for admission to a graduate degree program in theater, the director of graduate studies may require that certain course deficiencies in undergraduate subject areas are remedied. These requirements are stated in writing on the admissions approval form.

There are additional requirements established by each of the four areas of study in the M.F.A. program. Applicants in the acting and acting/directing areas are interviewed and required to audition. Applicants in the production design/technical areas are required to submit portfolio samples of their work. Applicants in the playwriting area must submit examples of their writings. More detailed information about these requirements is obtainable from: Director of Graduate Studies, Department of Theater, Southern Illinois University at Carbondale, Carbondale, IL 62901 (618) 453-5741.

Financial Assistance

There are several kinds of financial assistance available to graduate students in the Department of Theater. First, there are graduate fellowships awarded on the basis of superior scholarship. Second, special fellowships are offered annually to students who show promise of success in graduate studies although their academic records have been only average due to economic disadvantages. The fellowships have no service requirements. Third, graduate assistantships (over \$5,000 per academic year) are available to students who are employed in various academic support positions, such as teaching, researching, and in production. All fellowships and assistantships include a waiver of tuition (both in-state and out-of-state). Applications for financial assistance may be obtained by writing to the director of graduate studies.

The Master of Fine Arts Degree Program

The Master of Fine Arts degree program in theater emphasizes practical expertise in one of the following areas: acting, acting/directing, production design (separate concentrations in scenic, lighting, costume design, and technical direction), and playwriting. Coordination of cognate areas within the University structure offers the possibility of study in such interdisciplinary fields as dramatic literature, ethnic/international theater, and music theater, among others. In most instances, a minimum two year residency is required of all M.F.A. students.

All M.F.A. students must complete a minimum of 51 semester hours of course work, including the M.F.A. degree core requirements:

- THEA 400-2
- THEA 500, 501-5
- Basic theater course in area 3
- Total M.F.A. core 10

Besides the core requirements, the student will propose and successfully complete a project to qualify for further study in the chosen area. This project will be developed in concert with the student's committee consisting of three faculty members.

In addition, each of the four areas of study has specific area and elective requirements which are as follows.

Acting.

M.F.A. core (including THEA 417 or 517a) 10 hours

Area requirements 31 hours

Four semesters of Graduate voice 8 hours

Four semesters of Graduate movement 8 hours

Three semesters of Graduate acting 9 hours

THEA 599 6 hours

Electives (THEA 526a suggested) 10 hours

Total: 51 hours

Acting/Directing.

M.F.A. core (including THEA 402a) 10 hours

Area requirements 26

THEA 402b, 502-6

THEA 503a, b-4

THEA 513a, b-4

THEA 517a, b-6

THEA 599-6

Electives (by advisement) 15

Total: 51 hours

Production Design. (separate concentrations in scenic/lighting/costume design and technical direction)

M.F.A. core (including THEA 407) 10 hours

Area requirements 26

THEA 414, 418-6

THEA 510-8

Area theater electives 6 hours

THEA 599-6

Electives (by advisement) 15

Total: 51 hours

Playwriting.

M.F.A. core (including THEA 411a) 10 hours

Area requirements 26

THEA 402a or b, or 502-3

THEA 411b, 511, 526b-9

THEA 504 or 505-3

THEA 454 or 550-2 to 3

THEA 530-3 to 2

THEA 599-6

Electives (by advisement) 15

Total: 51 hours

Thesis requirements vary for each area of study; however, they include a research component as well as a description and evaluation of the student's creative project. In concert with the student's committee, the candidate may choose to separate the two, submitting an approved research paper during the first academic year and a creative thesis after completion of the M.F.A. final project.

The Department of Theater requires an oral examination, conducted by the student's thesis or dissertation committee, for each M.F.A. and Ph.D. degree candidate. The examination covers the thesis or dissertation, and may include questions designed to ascertain the student's general competence in theater.

Vocational Education Studies

The Department of Vocational Education Studies offers programs of study leading to the Master of Science in Education and Doctor of Philosophy degrees. Information about either program may be obtained by writing: Coordinator of Graduate Studies, Department of Vocational Education Studies, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Master of Science in Education Degree

The master's degree with a major in vocational education studies is designed to accommodate a broad range of individuals preparing for teaching and non-teaching roles in education, business, industry, government, and other fields. The major consists of a minimum of 30 semester hours of course work organized into 3 components.

Professional Core Requirements. This consists of 4 courses: VES 561, VES 566, VES 580, and EPSY 402. Students are required to take a minimum of 9 hours (3 courses) from the core.

Speciality Area Courses. This consists of 12-18 semester hours of course work relevant to a student's career goals. Technical courses, professional courses, individualized study, and internships may be included. Courses may be taken within the department or in other units of the college or University.

Research Paper or Thesis. In accordance with Graduate School requirements, a research paper or thesis must be written showing evidence of the student's knowledge of research techniques. The majority of students select the research paper option. Students enroll in 3 semester hours of VES 593 to develop the research paper. Students choosing the thesis option will enroll for 6 semester hours of VES 599.

The program of study is individually tailored based on the student's background, interests, and career goals. Representative programs of study include: secondary teacher of vocational or practical arts education, post-secondary technical teacher, local director of vocational education, coordinator of cooperative vocational education, industrial trainer, employment and training specialist, manager of human resource development, and extension adviser. Upon completion of all requirements, a final oral or written examination covering the course work and research paper or thesis is conducted by the student's advisory committee.

Doctor of Philosophy Degree in Education

Advanced studies leading to the Doctor of Philosophy degree in education with a concentration in vocational education studies is offered through the Department of Vocational Education Studies. The concentration is a broad, general leadership, and professional development degree that caters to people having knowledge, experience, and interests in the fields of: (a) vocational and technical education, (b) career education, (c) employment and training, or related fields. Even though many students who enter the program have a specific service area identity (e.g., agriculture education, business education, health occupations education, home economics education, industrial education), the degree is not awarded in a service area specialty.

Within the vocational education studies concentration a student may select one of 3 areas of specialization: (a) management, (b) professional development, or (c) research. The specialty area should be chosen based on the student's background, interests, and future career goals.

Persons seeking admission to the program must meet all requirements for admission established by (a) the Graduate School of the University, (b) the College of Education, and (c) the Department of Vocational Education Studies. It is required that applicants possess a background of academic and professional experience which will provide a basis for advanced study and research. More specifically, the program is designed for individuals with a background and experience in teaching, program administration, or training and development. Admission to the concentration is determined by a screening committee composed of a minimum of 3 members of the graduate faculty of the Department of Vocational Education Studies.

The program of study consists of 64 hours beyond the master's degree and includes an 8-hour professional seminar sequence in the College of Education, a 15-hour departmental core, 17 hours of supportive studies which may include an internship, research tool competence, and 24 hours of dissertation credit.

Zoology

The Department of Zoology's teaching and research programs are supported by appropriate courses, equipment, and facilities in a modern life science building. Available are an electron microscope complex, a centralized animal holding unit, a variety of sophisticated computer facilities, shops for design and construction of research equipment, Morris Library with approximately 1.8 million volumes, specialized research laboratories, and significant research collections. In proximity to the central campus are experimental ponds, wildlife enclosures, and natural laboratories. The Cooperative Fisheries and Wildlife Research laboratories, closely allied with the Department of Zoology, make important contributions to research facilities and research appointments for graduate students. The geographic location, physiographic features, and prevailing land use practices of southern Illinois and adjacent states offer unequaled opportunities for the use of natural and man-made environments in teaching and research. Of special value are the numerous refuges and parks, a national forest, large acreages of surface-mined lands, and a variety of streams and lakes. The Department of Zoology offers the Master of Arts, Master of Science, and the Doctor of Philosophy degrees. These degrees are awarded on the basis of demonstrated scholarship and the ability to organize, conduct, and report original research. Opportunities are available for experience in teaching and research.

Admission

Applicants for all graduate degrees must fulfill the requirements of the Graduate School.

Applicants for the master's degree must possess the following academic background: 24 semester hours in courses covering the basic principles of zoology; one year of college chemistry (organic or biochemistry is also desirable); one year of college mathematics including college algebra and trigonometry (calculus and statistics are desirable). A grade point average of 2.70 ($A = 4.0$) or above. Applicants with less than 2.70 will be considered on individual merit.

Applicants for the doctoral degree must demonstrate a sound background of academic training in the animal sciences; hold a master's degree or its equivalent and have a grade point average in graduate work of 3.25 or above. Accelerated entry after one semester in a master's degree program is possible for students demonstrating exceptional potential.

Inquiries should be directed to the director of graduate studies in zoology. Separate applications must be made to the Graduate School and to the Department of Zoology. A completed departmental application for admission includes: departmental application form, transcript of all previous college credits,

scores from the aptitude test of the Graduate Record Examination, and three letters of evaluation relative to professional and academic competence. All applicants will be notified of the action taken on their application by the director of graduate studies in zoology.

Advisement

Following admission to the department, and prior to registration, a student should consult appropriate faculty (representing student's area of interest) or the director of graduate studies in zoology for assistance in registration. Each student must arrange with a faculty member to serve as an adviser no later than the end of the first semester of registration in the program. A change in the adviser will be coordinated by the director of graduate studies in zoology at the request of the student and with the approval of the current and prospective professors.

Following selection and approval of an adviser, an advisory and research committee is to be recommended to the director of graduate studies in zoology for approval by the graduate dean. For the master's degree, the committee shall consist of a minimum of 3 members, 1 of whom may be from outside the department, with the adviser serving as chair.

For the doctoral degree the advisory and research committee shall consist of 5 faculty members, one of whom must be from outside of the department. The adviser shall serve as chair.

A program of course work and research tools as required must be approved by the advisory and research committee, and made a part of the student's departmental file no later than the first week of the second semester of registration in the program.

A research plan approved by the student's advisory and research committee must be placed in the student's departmental file prior to registration for ZOOL 598, 599, or 600 and no later than the end of the second semester of registration in the program.

While pursuing the completion of degree requirements, continuous registration is expected until such time as the degree has been completed. The number of hours required per session will reflect the extent of the demand for use of time and University and department facilities and academic personnel.

Academic Credit

Audited courses may not be counted toward completion of minimum hour requirements toward the degree. No course with a grade below *C* will fulfill minimal requirements of the degree. A petition for the use of transfer credits must be approved by the student's advisory and research committee and submitted to the director of graduate studies in zoology for forwarding to the dean of the Graduate School for approval.

Master of Arts Degree

A minimum of 30 hours of graduate credit is required beyond the bachelor's degree including at least 18 hours of formal course work in Zoology and 6 hours of ZOOL 599.

In addition, one of the following tools is required: a foreign language either by completion of FL 488 with a grade of *A* or *B* or a score of at least 465 on the ETS proficiency exam, or two semesters of one of the following: statistics, computer science, mathematics, biochemistry, or biotechnology.

A thesis embodying results and analysis of original research and a final examination are required.

Master of Science Degree

A minimum of 38 hours of graduate credit is required beyond the bachelor's degree including at least 24 hours of formal course work in zoology, and 2 hours of

ZOOL 598. A research paper demonstrating the ability of the student to collect and analyze data and report results in a scientific manner is required. A library research problem is acceptable but must include an original contribution in the form of correlations and interpretations. A final examination is required.

Required Level of Performance in Master's Degree Program. A cumulative grade point average of at least 3.0 must be attained during the first two semesters in all graduate level work, and must be maintained thereafter. Failure to meet this requirement will result in loss of any financial support provided by the department. A grade of *C* or better must be earned in all background (undergraduate) courses to remove deficiencies.

Final Examination.

1. Each candidate for a master's degree is required to pass a final examination. The examination will be oral and should be taken no later than 4 weeks before graduation.
2. The examination consists of 2 parts:
 - a. Presentation of the results of the research in a seminar.
 - b. A closed session of inquiry by the student's advisory and research committee following the seminar.

Graduation. Candidates for a master's degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.

The Ph.D. Degree

There is no minimal credit hour requirement beyond the Graduate School's residency and dissertation hour requirements. A student in consultation with an adviser prepares a program of study including courses in the major, in the minor, in areas of deficiency, and to complete the research tool requirement. This program when approved by the student's advisory and research committee is filed with the director of graduate studies in zoology.

Acceptable tools include foreign language, statistics, computer science, mathematics, biochemistry, and biotechnology. Normally two tools are required; however, one tool with exceptional expertise may satisfy the requirement if approved by the student's committee (exception: English as a second language). A student may qualify in a foreign language by completion of FL 488 with a grade of *A* or *B* or a score of at least 465 on the ETS proficiency exam. To qualify in statistics, a student must have course work through multiple regression analysis, which is GUID 506 and 507. In computer science a student should take CS 202 and one of the following: 129, 215, 220, and 470. For the tool requirements in mathematics, biochemistry, and biotechnology, the student will arrange a program of 2 or 3 courses acceptable to the advisory committee. Previously acquired skills or knowledge may satisfy the tool requirement if the student passes an appropriate proficiency examination.

A 3.25 grade point average in graduate level course work must be maintained; failure to meet this requirement will result in loss of any financial support provided by the department. No course in which the grade is below *C* is acceptable for credit.

Preliminary Examinations. These examinations (oral and written) are taken after the tool requirement and a major portion (approximately 80 percent) of formal course work are completed, usually at the end of the second year of graduate study. The student with the approval of the adviser, advisory committee, and the director of graduate studies in zoology registers with the chair of the preliminary examination committee to take the examination. The written exam-

ination evaluates basic competence in zoology, and the oral portion emphasizes the area of specialization and minor.

Dissertation. The nature of the research to be used for the dissertation is established in consultation with the student's adviser, and is approved by the advisory and research committee. An approved copy of the research proposal is filed with the director of graduate studies in zoology. The student is required to register for a minimum of 24 semester hours in ZOOL 600, Dissertation Research. The dissertation is evaluated by the student's advisory and research committee, reviewed for approval by the chair and submitted to the graduate dean for final approval.

Final Examination. Upon approval of the dissertation by the student's advisory and research committee, the candidate requests the director of graduate studies in zoology to schedule a seminar and a final examination. Following the seminar, the final examination over the dissertation is conducted by the student's committee. Both the seminar and examination are open to the public.

Graduation. Candidates for a Ph.D. degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.



3 Course Descriptions

In this chapter 400- and 500-level courses offered by Southern Illinois University at Carbondale are described. Courses are listed numerically within each subject-matter area. Areas are listed below in order of their appearance on the following pages.

Accountancy	Geography
Administration of Justice	Geology
Agribusiness Economics	Health Education
Agricultural Education and Mechanization	Higher Education
Agriculture	History
Animal Science	Industrial Technology
Anthropology	Journalism
Applied Linguistics	Linguistics
Art	Management
Behavior Analysis and Therapy	Manufacturing Systems
Biological Sciences	Marketing
Botany	Mathematics
Business Administration	Mechanical Engineering and Energy Processes
Business Education	Medical Education Preparation
Chemistry and Biochemistry	Microbiology
Cinema and Photography	Mining Engineering
Civil Engineering and Mechanics	Molecular Science
Communication Disorders and Sciences	Music
Communications and Fine Arts	Pharmacology
Community Development	Philosophy
Computer Science	Physical Education
Curriculum and Instruction	Physics
Economics	Physiology
Education	Plant and Soil Science
Educational Administration and Higher Education	Political Science
Educational Psychology	Public Affairs
Electrical Engineering	Psychology
Engineering	Radio-Television
Engineering Technology	Recreation
English	Rehabilitation
English as a Foreign Language	Religious Studies
Finance	Science
Foreign Languages and Literatures	Social Work
Chinese	Sociology
Classics	Special Education
French	Speech Communication
German	Statistics
Japanese	Telecommunications
Russian	Theater
Spanish	Vocational Education Studies
Forestry	Zoology

The first entry for each course is a three-digit identification numeral. Courses numbered 400-499 are open to both seniors and graduate students, unless designated otherwise. Courses numbered above 499 are for graduate students only.

Following the course identification number is another number which indicates maximum credit allowed for the course. The maximum may vary, and specific semester hours may be assigned for each term a course is offered.

Following the course description may be prerequisites which must be satisfied before a student will be permitted to enroll. Graduate students will not receive graduate credit for Pass/Fail grades taken at the 400 level. Graduate credit is awarded for 500-level courses which have been approved to be graded S/U (Satisfactory/Unsatisfactory) only.

All courses offered in a specific term will be listed in the appropriate Schedule of Classes which is published three times a year. They are available at University Electronic Communications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Accountancy

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: junior standing and limited to accounting majors or consent of school; 322 with a grade of C or better.

422-3 Current Developments in Accounting Theory. Critical analysis of current developments in accounting theory, especially as reflected in the publications of major accounting associations. Prerequisite: junior standing and limited to accounting majors or consent of school; 322 with a grade of C or better.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods, and operations research. Prerequisite: junior standing and limited to accounting majors or consent of school; 331 with a grade of C or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate, and trust types of organization. Brief study of social security, federal and state estate tax, and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: junior standing and limited to accounting majors or consent of school; 341 with a grade of C or better.

451-3 Advanced Accounting Information Systems. A review of current systems design and operation methodologies with special attention to the advantages and disadvantages these provide to an integrated information system. Prerequisite: junior standing and limited to accounting majors or consent of school; 351 with a grade of C or better.

461-3 Advanced Auditing. The study and application of selected auditing concepts and

techniques. Hands on applications will be emphasized. Prerequisite: junior standing and limited to accounting majors or consent of school; 361 with a grade of C or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: 230 with a grade of C or better.

495-1 to 6 Internship. Supervised work experience in professional accounting. Prerequisite: outstanding record in accounting and recommendation of the departmental committee on internship.

512-3 to 18 (3 per topic) Accounting Research Methods Seminar. An advanced seminar critically analyzing research methods employed to study problems existing in a subarea of accounting thought, which may be repeated for credit in terms of sections (a) through (f). Sections (a) through (f) may be taken only once each. (a) Auditing, (b) financial accounting, (c) managerial accounting, (d) not-for-profit accounting, (e) accounting information systems, (f) taxation. Prerequisite: BA 513 or consent of the school.

521-3 Emerging Issues in Accountancy. Identifies developing areas in financial accounting and forces students to research the issues, to think critically, evaluate alternatives, and communicate conclusions in oral and written form. International accounting, not-for-profit, standard setting and regulation, and other developing issues are addressed. *The Journal of Accountancy*, other professional journals, and guest speakers. Prerequisite: 321, 322, or consent of instructor.

522-3 Financial Accounting Theory. Contemporary advanced accounting theory, including controversial issues with emphasis on net income determination and asset valuation; particular attention given to current publications of the professional and government agencies. Prerequisite: 521 or consent of instructor.

529-3 Seminar in Financial Accounting. Discussion of differences in accounting practices in a variety of major industry groups. Prerequisite: 521 or consent of instructor.

531-3 Controllership and Policy. Duties and responsibilities of a controller; key role of the management control system in the controllership concept; information for managerial formulation of goals, objectives, policy, and programming; unique control problems for service, not-for-profit, and multinational companies; cybernetics behavioral considerations and administrative decision issues. Prerequisite: 331 or consent of instructor.

532-3 Advanced Management Accounting. Management planning and control decisions and design and evaluation of management accounting systems requiring formal models and application of vigorous analytic reasoning. Integration and synthesis of techniques such as regression analysis, linear programming, decision theory, and behavioral science for important decisions of the firm. Information economics. Contemporary research directories. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

541-3 Tax Concepts. Provides the student with an understanding of the nature of the federal tax law and an appreciation of the law's impact upon business decisions both for individuals and companies. Prerequisite: 341 or consent of instructor.

542-3 Tax Research and Procedure. Provides the student with a working knowledge of the tax practitioner's methodology applied to the solution of both routine and complex tax problems. Prerequisite: enrollment in M.Acc. program or consent of instructor.

543-3 Corporate Taxation. Provides students with in-depth exposure to federal income taxation of corporations and shareholders. Areas explored are corporate formations, distributions, redemptions, liquidations, subchapter S election, corporate income tax, accumulated earnings tax, personal holding company tax, and affiliated corporations. Prerequisite: enrollment in M.Acc. program or consent of instructor.

544-3 Partnership Taxation. Provides students with in-depth exposure to the federal income taxation of partnerships and partners. Areas explored are the definition of a partnership, acquisition of an interest, basis of interest, tax accounting for partnership operation, distributions, termination, sale or exchange of interest, collapsible partnerships, death or retirement, and tax shelters. Prerequisite: enrollment in M.Acc. program or consent of instructor.

545-3 Estate Planning. A comprehensive study of the various aspects of estate planning, including an analysis of the impact of the federal estate and gift tax laws. In addition, the role of wills, trusts, insurance, and other related legal topics necessary to formulate a comprehensive plan is emphasized. The case approach will be utilized wherever feasible. Prerequisite: enrollment in M.Acc. program or consent of instructor.

546-3 Seminar: Selected Tax Topics. Pro-

vides students with in-depth exposure to federal income taxation of selected topics. Topics will vary from semester depending upon instructor and topics of current interest. Prerequisite: 541 or consent of instructor.

547-3 Tax Accounting Principles. Provides linkage of accounting skills with tax knowledge through identification of significant differences between tax and financial accounting and selection of tax accounting principles having a significant impact on cash flows. Tax accounting problems for industrial, wholesale, and retail companies. Prerequisite: 541 or equivalent and 421.

548-3 Interjurisdictional Tax. Examination of tax accounting problems when taxable events transcend governmental boundaries. Compares use of transfer pricing for international tax purposes to use of allocation procedures for interstate tax purposes. Specific international tax problems of foreign persons, U.S. citizens living abroad, U.S. shareholders for foreign corporations, and other U.S. persons. Special problems related to interstate taxation. Prerequisite: 541 or equivalent and 531 or consent of the school.

551-3 Accounting Information Systems Concepts. Concepts and principles underlying the analysis, design, implementation, and control of information systems. Emphasizes designing and implementing particular computerized information systems for different purposes and uses, focusing on accounting information systems in financial, managerial, and entrepreneurial decision-making. Prerequisite: 331, 351, 361, or consent of instructor.

552-3 Accounting Information Systems II. Survey of the subsystems of a business information system and their integration. Specific attention will be given to the budgeting and planning systems and the accounting, marketing, and production subsystems. Prerequisite: 551 or consent of instructor.

561-3 Professional Dimensions of Accountancy. Study of ethical and professional conduct in the practice of financial and operational audits. Includes a detailed look at codes of ethics and conduct in public accounting, industrial accounting, internal auditing, governmental accounting, tax practice, and consulting. Prerequisite: 361 or consent of instructor.

562-3 Advanced Auditing Topics. Examination of state-of-the-art auditing topics including auditing EDP systems; microcomputer applications in analytical review procedures, internal controls, and tests of details; statistical techniques; operational and compliance auditing; and attestation engagements. Prerequisite: 561 or consent of instructor.

571-3 Not-For-Profit Accounting. The study of accounting principles and practices of schools, hospitals, governmental agencies, the arts, and other not-for-profit organizations. Emphasis is on financial reporting. Prerequisite: enrollment in M.Acc. program or consent of instructor.

590-3 Seminar in Accounting. Discussion of current accounting theories, principles, standards, and problems. Prerequisite: enroll-

ment in M.Acc. program or consent of instructor.

591-1 to 6 Independent Study. Directed independent study in selected areas of accountability. Prerequisite: enrollment in M.Acc. program.

599-3 to 6 Thesis. Prerequisite: enrollment in M.Acc. program.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Administration of Justice

The following courses are offered through the Center for the Study of Crime, Delinquency, and Corrections.

402-3 Group and Family Treatment in Criminal Justice. Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs, and transitional living situations.

403-3 to 9 (3 per topic) Enforcement Operations. (a) Advanced investigation. (b) Enforcement management. (c) Enforcement discretion. This course offering provides a broad coverage of law enforcement activities from detailed investigative work through specialized management techniques required. Some sections of the course may be offered only every other year. Prerequisite: (a) 303 or graduate status; (b) 202 or graduate status or consent of instructor.

408-3 Criminal Procedure. An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, and the exclusionary rule, civil liberties, eavesdropping, confessions, and related decision-making factors. Prerequisite: 310.

415-3 Prevention of Crime and Delinquency. Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 201 and 290 or consent of instructor.

450-3 Public and Private Security. An overview of important issues related to internal and external security and loss prevention. Covers security's historical development; its current role; different careers available; the prevention, detection, and reduction of hazards stemming from both internal and external sources; as well as certain administrative aspects.

451-3 Forensic Interrogation. Forum focusing on forensic interrogation; conceptual framework for understanding the behavioral and psychological aspects of the process; discussion of its historical and philosophical development, general use in criminal and private security investigations, legal proceedings, and importance in a democratic society. Students receive both theoretical grounding and hands-on experience. Prerequisite: consent of instructor.

460-3 Women and the Criminal Justice System. Addresses the topics of women as offenders, as victims, and as workers in the criminal justice system. Prerequisite: 201 and 290 or consent of instructor.

472-3 The American Correctional System. (Same as Sociology 472.) A survey of the correctional field, covering probation, institutional treatment, and parole. Historical development, organizational structure, program content, and current problems. Prerequisite: 201 and 290 or consent of instructor.

473-4 Juvenile Delinquency. (See Sociology 473.) Prerequisite: 201 and 290 or consent of instructor.

474-3 Juvenile Justice. The evolving definition of juvenile misbehavior and the legal mechanisms that emerged to control it. The problems and promise of juvenile justice in the terms of the juvenile code and court, law enforcement, juvenile institutions both custodial and treatment, and community treatment. Prerequisite: none. 473 or equivalent recommended.

476-3 Crime and Criminal Justice: International Dimensions. Examination of sociocultural and political factors shaping criminality and response to crime around the world. Similarities and differences in criminogenic conditions and practices of law enforcement and corrections are traced. Prerequisite: 201 and 290 or consent of instructor.

485-3 Corrections and the Community. Traditional correctional functions are redefined to emphasize development of resources of community at large, diversion of convicted offenders from institutions, and direct involvement of correctional programs in community affairs. Prerequisite: three administration of justice courses or consent of instructor.

490-1 to 3 Independent Study in the Administration of Justice. Supervised readings or independent investigative projects in the various aspects of crime control, treatment of offenders; and management of programs of law enforcement, courts, and correctional agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201 and 290 or consent of instructor.

492-2 to 6 (2 to 3 per semester) Contemporary Issues in Administration of Justice. A forum for focusing on special interest topics depending on the availability of staff, visiting professors, and other selected instructional resources to cover a contemporary issue of concern to students and the faculty. May reenroll for a maximum of six credits. Prerequisite: 201 and 290 or consent of instructor.

500-3 Foundations of Criminal Justice. An exploration of the nature and scope of the

criminal justice process. Criminal justice operations and behavior are assessed in context of the major theoretical, historical, normative, and organizational influences found in the field.

504-3 Criminological Theory. Multidisciplinary study of biogenic, psychogenic, and sociogenic explanations for criminal behavior relevant to policy-making and practice in criminal justice. Prerequisite: consent of instructor.

516-3 Scope and Method of Criminal Justice Inquiry. Principles of scientific inquiry applied to the study of crime and criminal justice. Examines the interrelationship of theory and research techniques, development of hypotheses and problem statements, different approaches to data collection, and research designs.

517-3 Seminar in Advanced Quantitative Techniques in Administration of Justice Research. Examination and application of multivariate analytic techniques often utilized in criminal justice research; including but not limited to multiple regression, multivariate analysis of variance, discriminant analysis, factor analysis, and log-linear and logistic modeling.

562-3 Fundamental Legal Concepts in the Administration of Justice. Includes the origin of rights, a review of the historical development and current use of civil rights; due process, equal protection, and cruel and unusual punishment; affirmative action, the limits of governmental action; and the application of these doctrines to various populations such as criminal justice personnel, prisoners, women, and minorities.

571-3 Correctional Systems in Criminal Justice. Evaluation of corrections as a system, its programmatic interrelationships and conflicts, and the probable course of its future development. Prerequisite: consent of instructor.

578-1 to 4 Seminar in Correctional Rehabilitation Counseling. Review of major issues and research relative to rehabilitation practices in youth and correctional settings. Prerequisite: consent of instructor.

580-3 Planning for Change in the Administration of Justice. Examines the planning of change in criminal justice. Presents perspectives and models used in understanding the dynamics of planned change and why change efforts succeed or fail. Discusses types of change strategies, targets of change, and levels of intervention with focus on broad-based organizational and system-level change.

582-3 Criminal Law and the Correctional Process. Basic principles and administration of the criminal law and the legal foundations of the juvenile court, the sentencing process, parole and probation, and the changing concept of mental competency. Includes statutory, case, and administrative law requirements of "due process" in correctional services.

584-3 Administration and Management in Criminal Justice. Focuses on the develop-

ment and history of administrative theory and its impact on management techniques involving administration of justice bureaucracies.

587-3 Seminar in Law Enforcement. Multidisciplinary study of the philosophical premises, theoretical implications, and functions of contemporary law enforcement. Prerequisite: consent of instructor.

588-3 to 6 (3 per topic) Selected Topics in the Administration of Justice and Public Safety. (a) Personnel administration. Issues and processes in the education, selection, training, and promotion of administration of justice personnel are reviewed. (b) Policy and program evaluation. Examination of approaches and problems in the analysis and evaluation of criminal justice personnel, policy, and problems, with attention paid to both process and outcome analyses.

590-1 to 3 Supervised Readings in Selected Subjects. Readings supervised by a faculty member in a selected area of the Administration of Justice. Prerequisite: consent of a faculty sponsor.

591-3 to 6 Individual Research. A field project directed by a faculty committee which represents the study of a problem confronted during field experience centering on an applied criminal justice topic and results in a project or program development plan. Graded *S/U* only. Prerequisite: consent of instructor.

592-3 Advanced Seminar in Administration of Justice. Seminars of varied content for advanced students. Prerequisite: consent of instructor.

595A-3 or 6 Supervised Field Work (Internship). Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs, and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded *S/U* only. Prerequisite: consent of instructor.

595B-3 or 6 Supervised Field Work (Internship). Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs, and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded on a letter grade basis. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Graded *S/U* only. Prerequisite: consent of academic coordinator.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Agribusiness Economics

Field trips are required for certain courses.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other programs involving agriculture. Prerequisite: junior standing or consent of instructor.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chair.

440-3 Land Resource Economics. (Same as Economics 471.) The use of land as an economic variable in producing goods and services; land markets; public versus private land conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics, or economics credit, or graduate status, or consent of instructor.

444-3 Agricultural Development. Analysis of the economic, social, political, cultural, and institutional facts related to economic growth and development in agricultural sector. Framework for evaluating outcome of alternative strategies in agricultural production, marketing, and government policies that affect output, income distribution, and resource use in agriculture and the related agroindustrial complex. Prerequisite: 204.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent, and GE-D 107.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate appraisal. Application of capitalization, market and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor.

453-3 Agribusiness Planning Techniques. Application of mathematical programming to agribusiness and farm planning including enterprise selection, resource allocation, least cost ration formulation, decision-making under risk and uncertainty, and transportation and location problems. Emphasis placed on modeling problems and interpretation of results. Prerequisite: 350 or consent of instructor.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price

movements, and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Examination of agribusiness firm management with an emphasis on the management and control of financial resources and the interrelationship between the agribusiness firm and human resource management. Other topics in agribusiness include effective communication in the management process, business ethics, and workable credit programs for customers. Prerequisite: 351 and 360 or equivalent.

462-3 Advanced Agricultural Marketing. Advanced treatment of marketing issues from both theoretical and practical decision-making perspectives. Marketing margins, intertemporal, and spatial price relations are reviewed in detail. Historical and current grain and livestock price series are utilized in decision-making exercises. Prerequisite: 362 or equivalent.

500-6 (3,3) Agribusiness Economics Research Methodology. (a) Social science research methodology in agriculture, including defining research problems, hypothesis formation, specification of research design, survey methodology, source of data, and development of research proposals. (b) A survey of applied techniques and procedures for developing and evaluating agricultural economic research models with an emphasis on multiple regression and time-series models. Prerequisite: EPSY 506 or equivalent.

551-3 Resource Allocation in the Agribusiness Firm. An examination of resource allocation in the agribusiness firm. Production decisions, agricultural product price analysis, and decision making models are considered. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

552-3 Problems and Policies of the Agricultural Sector. An analytical survey of agricultural policy issues including agricultural price and income stabilization; international trade, capital and credit, the structure of agriculture, and the quality of life in rural areas. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

581-1 to 4 Seminar in Agribusiness Economics. Seminar on current research and issues in agribusiness economics on topics such as farm management, farm policy, agricultural marketing, farm finance, agricultural prices, and international agriculture.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of program and the number of semester hours of credit.

590-1 to 4 Readings. Readings in specialized topics under the direction of an approved graduate faculty member. Graded S/U only.

593-1 to 4 Individual Research. Directed research in selected topics under the supervision of an approved graduate faculty member. Graded S/U only.

599-1 to 6 Thesis. Work in the research for

and presentation of a thesis under the supervision of an approved faculty member. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Agricultural Education and Mechanization

Field trips are required for certain courses.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization. (a) Agriculture education. (b) Agriculture mechanization. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in a master's degree program. Prerequisite: consent of chair.

411-3 Program Development in Agricultural Extension. Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Methods of Agricultural Mechanization. Theory and use of educational materials and devices adaptable to the needs and interest of educators involved in agricultural mechanization laboratories. There is a \$15 additional charge for this course.

414-3 Adult Education Procedures, Methods, and Techniques. Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. The application, in the professional field setting of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

418-3 Applications of Integrated Software/Agriculture. (Same as Vocational Education Studies 409.) Design of agricultural or educational applications of integrated software. Spreadsheet, database, wordprocessing, and graphic and communications software will be applied to the solution of agricultural problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

472-3 Agricultural Tractors and Engines. Tractor performance and selection, principles of operation, maintenance analysis, and tune up of multi-cylinder farm type internal combustion engines. There is a \$5 additional charge for this course.

473-2 Advanced Agricultural Electricity. Application of electricity to agricultural problems. An emphasis on principles of electrical distribution on the farm and/or the agribusiness operation. Planning the efficient usage of electricity. Prerequisite: 373 or equivalent.

474-3 Advanced Agricultural Structures. A study of design characteristics, construction, methods, and environmental control applicable to agricultural structures. Design construction and environment are considered from the standpoint of the function of the building in an agricultural enterprise. Prerequisite: 384 or equivalent.

483-3 Agricultural Materials Handling, Processing, and Storage. Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 373 or 384 or 473 or 474.

500-3 Agricultural Education and Mechanization Research Methodology. Social science research methodology in agriculture including defining research problems, preparing project proposals, and sources of data.

501-3 Recent Research in Agricultural Education. A study of recent research and development in agricultural education. The course includes an analysis of regional and national scholarly publications, procedures, and products. Prerequisite: graduate status and consent of instructor.

525-3 Program Development in Agricultural Education. Analysis and appraisal of current trends in agricultural education program development. Attention is given to implications for educators at the high school, post secondary, and in extension education positions. Offered each year, alternating spring and summer semesters.

526-3 Professional Development in Agricultural Education. Recent developments and trends in agricultural education are presented for review and discussion. The role of the agricultural instructor in determining educational priorities is emphasized. Offered each year, alternating fall and summer semesters.

571-3 Current Problems and Research in Agricultural Power and Machinery. A study and analysis of current problems, research findings, and innovations in agricultural power units and machinery. Prerequisite: 472 or equivalent.

581-1 to 8 (1 to 4 per topic) Seminar. (a) Agriculture education. (b) Agriculture mechanization. Study and discussion in selected topics under the supervision of an approved graduate faculty member. A maximum of four hours can be counted toward a Master of Science degree.

588-1 to 8 International Graduate Studies. University residential graduate study

program abroad. Prior approval by the department is required both for the nature of program and the number of semester hours of credit.

590-1 to 4 Readings. Readings in specialized topics under the direction of an approved graduate faculty member. Graded *S/U* only.

593-1 to 4 Individual Research. Directed research in selected topics under the supervision of an approved graduate faculty member. Graded *S/U* only.

595-1 to 4 Agricultural Occupation Internship. Prepares coordinators to fulfill their responsibilities in selected areas in agricultural related occupations through an internship in the area of specialization and through orientation to related technical information. Prerequisite: consent of department.

599-1 to 6 Thesis. Work in the research for and presentation of a thesis under the supervision of an approved faculty member. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Agriculture

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

450-2 Farming Systems Research and Development. Introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing the interactions of these components as well as the physical, biological, and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally.

481-1 International Agricultural Seminar. Discussion of special topics relating to

worldwide agricultural development. Prerequisite: consent of instructor.

Animal Science, Food, and Nutrition

Field trips are required for certain courses.

409-4 Equine Science. Designed for students in the more scientific aspects of equine physiology and management. The class will take a more advanced look at anatomy and physiology of the systems in the equine and consider how they relate to selection, use, and management. Lecture and laboratory. Prerequisite: 219, 220 or equivalent, 331 or PHSL 210.

410-3 Meat Science. Chemical, physical, and nutritional properties of meat and meat products. Topics covered include muscle function, tissue growth and development, aspects of post mortem change including rigor mortis, meat microbiology, methods of analysis and quality control. Prerequisite: 210, CHEM 140 or equivalent, and a course in physiology.

414-2 Animal Feed Quality Control. Laboratory procedures for nutrient determinations used in animal feed quality control. Prerequisite: CHEM 140 or equivalent.

415-3 Monogastric Nutrition. Advanced principles and practices involved in meeting nutrient requirements of monogastric animals. Prerequisite: 215 and 315.

416-3 Ruminant Nutrition. Practical knowledge gained of problems associated with digestion, absorption, and metabolism of nutrients as related to domestic ruminants, horses, and other pseudoruminants. Prerequisite: 215 and 315.

419-3 Stable Management. This course is designed for the advanced equine science student who is planning a career in the horse field. The class will teach in-depth management techniques on an applied basis. Students will have the unique opportunity to learn both theory and application of management in one course. One hour lecture, four hours laboratory. Limited enrollment. Prerequisites: 219, 409.

420-4 Commercial Poultry Production. Principles and practices of management of broilers, layers, and turkeys as adapted to commercial operations. Field trip. Offered fall semester of even numbered years. Prerequisite: 315 or consent of instructor.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science.

430-4 Dairy Cattle Management. Application of the principles of breeding, nutrition, physiology, and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will

incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology of Domestic Animals. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones, reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination; pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

432-2 Quantitative Inheritance of Farm Animals. A review of the genetic principles underlying changes in animal breeding population; interpretations of gene frequency, heritability, and genetic correlations; application of selection and breeding systems in farm animals. Prerequisite: 332.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Offered only fall semester of odd numbered years. Prerequisite: course in physiology.

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Production. Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

480-3 Sheep Production. Breeding, feeding, and management of sheep. Field trip. Prerequisite: 315.

481-1 Current Topics in Equine Science. Seminar course exploring selected topical concerns in the horse industry. Students will prepare and present an individual seminar on current scientific work in the equine area. Such areas of study might include but are not limited to behavior, nutrition, reproduction, management, veterinary advances, and general and exercise physiology. Prerequisite: 419.

485-4 Beef Production. Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

500-3 Research Methods in Agricultural Science. Experimental design and biometry as applied to biological and allied fields. Prerequisite: graduate student.

502-2 Surgical Research Techniques in Farm Animals. Basic methods of experimental surgery and sampling of biological materi-

als in research on farm animals. Practice of techniques discussed in the lectures. Prerequisite: consent of instructor.

506-3 Instrumentation Methods in Agricultural Science. Basic methods and techniques of spectrophotometric and chromatographic instrumentation are taught in the lectures with application of instruments carried out in the laboratories. Prerequisite: consent of instructor.

515-3 Energy and Protein Utilization. Energy and protein utilization including digestion, absorption, and metabolism as related to domestic animal production. Prerequisite: CHEM 344 and 345.

516-3 Minerals and Vitamins in Animal Nutrition. Basic and applied principles of mineral and vitamin metabolism. Emphasis on metabolic functions, reaction mechanisms and interrelationships. Prerequisite: CHEM 344 and 345.

531-2 Topics in Theriogenology. Current research topics in reproduction of domestic mammals are discussed in relation to improving production technology. Emphasis is on neural and endocrine control mechanisms that may be modified to increase animal productivity. Prerequisite: 431.

581-1 to 2 (1,1) Seminar. Problems relating to various phases of animal industries. Maximum of one hour per semester.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of the program and the number of credit hours.

590-1 to 3 Reading in Animal Industries. Reading in specialized fields under direction of approved graduate specialists.

593-1 to 3 Individual Research. Investigation of a problem in animal science under the supervision of an approved graduate specialist.

599-1 to 6 Thesis. Credit is given for a master's thesis when it is accepted and approved by the thesis committee.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Anthropology

400A-3 Theory and Method in Physical Anthropology. Current topics in biological evolution and variation, including the theoretical and methodological background to each. Topics will be drawn from the four major areas of physical anthropology: genetics and evolutionary theory, primate studies, human fossil record, and human variation. Prerequisite:

300a for undergraduates or consent of instructor.

400B-3 Theory and Method in Linguistic Anthropology. History of linguistic anthropology. Description and analysis of languages. Origin, development, and acquisition of language. Theory of symbolic systems. Human and animal communication. Historical linguistics. Language in culture and society. Prerequisite: 300b for undergraduates or consent of instructor.

400C-3 Theory and Method in Archaeology. Overview of the currents and controversies in anthropological archaeology in their historical and theoretical context. Topics include history of archaeological theory, explanation in archaeology, limitations of the archaeological record, and archaeological approaches to the study of cultural variation. Prerequisite: 300c for undergraduates or consent of instructor.

400D-3 Theory and Method in Sociocultural Anthropology. Overview of contemporary approaches to social and cultural research in anthropology. Attention is given to such topics as structural functionalism, cultural ecology, dialectical and cultural materialism, ethnohistory, sociobiology, neo-Darwinism, symbolism, and cross-cultural comparison. Problem areas investigated include kinship, social structure, comparative economics, political organization, religion, culture and personality, environmental adaptation, cultural change. Prerequisite: 300d for undergraduates or consent of instructor.

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and culture change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in cultural groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technological society will be considered.

406-3 Conservation Archaeology. The method and theory of archaeology in relationship to local state and federal laws regarding the protection and excavation of antiquities. Emphasis is on problem-oriented survey and excavation, as well as the preparation of archaeological contacts and the writing of reports to satisfy statutes involving environmental concerns. Prerequisites: 300C, or 400C, or consent of instructor.

409-3 History of Anthropology. The development of anthropological thought in the four subfields of the discipline (sociocultural, physical, linguistics, archaeology). Emphasis is on concepts, ideas, and work of major practitioners of the early 19th to the middle of the 20th centuries, and on the major trends that have led to specialties found in anthropology today. The present status of anthropology as an academic discipline is briefly explored, and

an attempt is made to assess the future of the discipline in terms of intellectual and practical concerns.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator, and others who are attempting to guide change in the lifeways of others in Western culture and the third world. Prerequisite: none. 300D recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American/non-American systems, and the teaching of anthropology. Prerequisite: none. 300D recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300D recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon non-literate societies. Analysis of motifs, tale types, themes, and other elements; comparisons between nonliterate and literate groups. Prerequisite: none. 300D recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300D recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of the "Great Religions". Prerequisite: none. 300D recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300D recommended for undergraduates.

410H-3 Ethnomusicology of Oceania, Asia, and Africa. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Oceania, Asia, and Africa.

410I-3 Ethnomusicology of Middle East, Europe, and the New World. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and func-

tioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300D recommended for undergraduates.

410K-3 Ecological Anthropology. An examination of the relationship of past and present human populations in the context of their natural and social environments. Prerequisite: 300c and 300d or equivalent.

425-3 Cognitive Anthropology. The theory of culture as cognitive organization is explored. Among the topics are: formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the "new ethnography".

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300C or 400C or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300C or 400C or consent of instructor.

430C-3 Archaeology of the Southwest. Detailed study of the early cultures of the Southwest with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430D-3 Archaeology of the Old World. Detailed study of the early cultures of the Old World with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430E-3 Archaeology of the Eastern Woodlands. Detailed study of the early cultures of the North American eastern woodlands with emphasis on the evolutionary development of cultures. Prerequisite: 300C, 305, 400C, or 430A or consent of instructor.

440A-3 Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300A or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning, and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300A or consent of instructor.

441-6 (3,3) Laboratory Analysis in Archaeology. (a) Emphasizes methods of analysis in archaeology as part of a larger research design created by the student. May be taken independently or as a follow-up to 496. (b) Emphasizes technical methods of the physical and natural sciences in archaeological analysis, as used in environmental reconstruction, dating, and for the investigation of production and exchange.

442-1 to 12 Working with Anthropological Collections. Management, curation, and analysis of anthropological collections as part of a research project created by the student. May be taken independently or as a follow-up to 450, 495, 496, or 597.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300A, 400A or consent of instructor.

450-6 (3,3) Museum Studies. A detailed study of museum operation to include (a) methodology and display and (b) administration, curation, and visits to or field work with area museums. Practical museum work will be stressed in both (a) and (b) and (a) must be taken before (b).

455-3 to 15 (3 per topic) Topics in Physical Anthropology. Intensive study of one of the major subfields within physical anthropology. (a) Dental anthropology. (b) Laboratory methods. (c) Primate behavior and evolution. (d) Quantitative methods. (e) Epidemiology. Prerequisite: 300a or consent of instructor.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 24 People and Cultures. A survey of the prehistory, cultural history, and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania. Prerequisite: a basic acquaintance with geography and history of the areas.

480-3 Honors Seminar. Topics to be arranged by agreement of participating faculty and students. Not open to graduate students. Prerequisite: consent of department.

490-3 Field Methods and Analysis in Linguistic Anthropology. Includes theoretical background and a project in the linguistic aspects of culture. Prerequisite: 300b, 301, or 400b.

495-6 to 8 Summer Ethnographic Field School. An eight-week field research training program in Southern Illinois communities. Students will attend seminars on campus and in the field, but the greater part of the time will be spent engaging in continuous team research under the direction of the faculty members involved in the program. Some form of cooperative living arrangement in the field will be organized. The program is open to advanced undergraduate and graduate students. Prerequisite: consent of instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

499-3 Honors Thesis. Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department.

501-6 (3,3) Practicum in Educational Anthropology. Provides anthropology students actual classroom experience in a lower division anthropology course. Students will be in-

volved in the teaching of designated courses. The instructor of record will meet with practicum members on a regular basis, critique their lectures, and together with them work out problems and plan future direction of the course. Graded *S/U* only. Prerequisite: Ph.D. level or successful completion of core course requirements at the M.A. level.

510-2 to 6 (2 to 3 per topic) Seminar in New World Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

511-2 to 6 (2 to 3 per topic) Seminar in Meso-American Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

512-2 to 6 (2 to 3 per topic) Seminar in Old World Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

513-2 to 6 (2 to 3 per topic) Seminar in Archaeology. Seminars in varying topics in archaeology. Students should consult department about subjects to be covered.

515A-3 Seminar in Social-Cultural Anthropology. Discussion of anthropological concepts of social structure and related topical themes, based upon extensive reading selected from a large number of sources. Prerequisite: 409 or consent of instructor.

515B-3 Seminar in Social-Cultural Anthropology. Intensive analysis of a limited set of monographs organized around a theoretical problem or set of problems. Prerequisite: 409 or consent of instructor.

520-2 to 6 (2 to 3 per topic) Seminar in New World Ethnology. From year to year, the areal and topical coverage of this course will vary, as will instructors. Students should consult the department about subjects to be covered.

521-2 to 6 (2 to 3 per topic) Seminar in Ethnology of Latin America. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

522-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Oceania. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

523-2 to 6 (2 to 3 per topic) Seminar in Anthropology of Africa. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

530-2 to 6 (2 to 3 per topic) Seminar in Physical Anthropology. Seminars in varying topics in physical anthropology. Students should consult the department about subjects to be covered.

540-3 Pidgin and Creole Languages. (Same as Linguistics 507.) Survey of the world's pidgins and creoles, with emphasis on the English-based Atlantic creoles. Comparison of creolization with first and second language acquisition, and with the origin and evolutionary development of human language. Prerequisite: one previous course in linguistics or consent of department.

545-2 to 6 (2 to 3 per topic) Seminar in Anthropological Linguistics. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

560-2 to 6 (2 to 3 per topic) Seminar in Comparative Social Organization. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

562-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Contemporary Peoples. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

565-2 to 6 (2 to 3 per topic) Seminar in Culture Change and Development. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

567-2 to 6 (2 to 3 per topic) Seminar in Anthropological Theory and Method. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

576-2 to 6 (2 to 3 per topic) Seminar in Anthropological Research Design. Supervised training in the preparation of anthropological research designs. Requirements will include completed research proposals involving the relation of data to theory and results in the general sub-areas of archaeological, physical, social, and linguistic anthropology. Coverage will vary. Students should consult the department.

581-2 to 6 (2 to 3 per topic) Seminar in Anthropology. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

585-1 to 12 (1 to 3 per semester) Readings in Anthropology. Guided readings to cover special topics and fill gaps in the student's specialized anthropological background, to be arranged with department.

590-1 to 12 Internship in Conservation Archaeology. The purpose of this course is to allow pre-professional archaeologists to be introduced to an actual archaeological or administrative milieu. This will normally take the form of a supervised field project, but the project may be excavation, survey, or aspects of administration. Graded *S/U* only.

595-3 Field Methods in Ethnology. Anthropological methods of inquiry and documentation of cultures and habitat together with appropriate instruction in the technique

of field work such as photography and sound recording.

597-1 to 12 Fieldwork in Anthropology. To be arranged with department. Graded *S/U* only.

599-1 to 6 Thesis.

600-1 to 32 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Applied Linguistics

(See Linguistics.)

Art

Art studio courses (400-499, 500-598) are directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the major field.

Courses in this department may require the purchase of supplemental materials. Permission of the major adviser in each studio is required for enrollment in studio courses.

400-3 to 30 (6,6,3,3 to 15) Advanced Drawing I. (a) Figure drawing. Not for graduate credit. Prerequisite: 300a, b, c. (b) Individual research. Not for graduate credit. Prerequisite: 400a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 400b. (d) Independent study in drawing. Prerequisite: for undergraduates 400b; for graduates, consent of major adviser. Incidental expenses may exceed \$50 for each section.

401-3 to 30 (6,6,3,3 to 15) Advanced Painting I. (a) and (b) Individual problem solving with emphasis on technical and conceptual synthesis. Not for graduate credit. Prerequisite: for a, 301a, b, c; for b, 401a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 401b. (d) Independent study in painting. Prerequisite: for undergraduates, 401b; for graduates, consent of major adviser. Studio fee for a, b, and d \$3. Incidental expenses may exceed \$50 for each section.

402-3 to 30 (6,6,3,3 to 15) Advanced Printmaking. (a) Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: 302, 6 hours. (b) Individual research with emphasis on history, processes and ideas which lead to the formation of personal content. Not

for graduate credit. Prerequisite: 402a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 402b. (d) Independent study in printmaking. Prerequisite: for undergraduates, 402b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$10 per credit hour enrolled. Incidental expenses may exceed \$50 each section.

403-3 to 30 (6,6,3,3 to 15) Advanced Sculpture I. (a) Foundry techniques and direct metal fabrication. Not for graduate credit. (b) Individual research with emphasis on history, materials, processes, and ideas to form personal content. Not for graduate credit. Prerequisite: 403a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 403b. (d) Independent study in sculpture. Prerequisite: for undergraduates, 403b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

404-3 to 27 (3,6,3,3 to 15) Advanced Ceramics I. (a) Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: 304, 6 hours. (b) Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: 404a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 404b. (d) Independent study in ceramics. Prerequisite: for undergraduates, 404b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$24 to \$48 per credit hour enrolled. Incidental expenses may exceed \$20 for each section.

405-3 to 27 (3,6,3,3 to 15) Advanced Metalsmithing I. (a) Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Prerequisite: 305a and b. (b) Media exploration to develop individual styles. Not for graduate credit. Prerequisite: 405a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite 405b. (d) Independent study in metalsmithing. Prerequisite: for undergraduates, 405b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$8 per credit hour enrolled. Incidental expenses may exceed \$75 for each section.

406-3 to 27 (3,6,3,3 to 15) Advanced Fibers I. (a) Individual design problems. Not for graduate credit. Prerequisite: 306b. (b) Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Prerequisite: 406a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 406b. (d) Independent study in fibers. Prerequisite: for undergraduates, 406b; for graduates, consent of major adviser. Studio fee for a and b, \$17 per credit hour enrolled; for d, \$15 to \$30 per semester. Incidental expenses may exceed \$75 for each section.

408-2 to 9 (2 to 3, 2 to 3, 2 to 3) Basic Research in Art Education. Each student demonstrates via class presentation, term papers and answers to exam question, a knowledge of basic research techniques and applications; important literature in the field of art education; broad research meanings; a theory of art education and material on behavioral ob-

jectives presented in class and via tape-slide self instruction programs.

414-3 to 21 Glass I. A studio course designed for the beginning glass student focusing initially upon basic "flat glass" and cold working techniques and processes. Course-work includes projects intended to familiarize the student with designing and executing products in stained glass. Student will be introduced to forming techniques in glassblowing. Studio fee \$12 per credit hour enrolled. Prerequisite: consent of instructor.

415-4 Creative Look at Reclamation Possibilities for Massively Disturbed Land. Presents the possibility that massively disturbed areas can be aesthetic resources if potential inherent in these sites can be recognized and addressed. Presented in seminar/lecture/studio format with selected lectures given by invited speakers. Discussions include recognition of massive land disturbance; reclamation as a concept; environmental art and design; the questions a potential developer or designer of disturbed land should ask and where they might look for expert advice; and group critiques on student studio projects. Studio projects will involve the visualization in 2- and 3-dimension formats of plans for the reclamation of the students' chosen site with accompanying documentation.

427-3 Renaissance Art. An examination of various topics appropriate to a study of Renaissance art, both northern and Italian, during the 15th and 16th centuries in Europe. The emphasis is on a range of art history problems and methods of approach. Field trip required. Prerequisite: 207a or consent of instructor.

437-3 Baroque and Rococo Art. An examination of various topics appropriate to a study of Baroque and Rococo art in western Europe. Emphasis upon a range of art historical problems and methods of approach. Field trip required. Prerequisite: 207a or b, or consent of the instructor.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

457-3 Women in the Visual Arts. (Cross-listed as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee \$10.

467-3 Critical Issues in Contemporary Art. An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media.

477-3 American Art of the Thirties. A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: 1)a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture, and architecture, 2)an investigation into government-subsidized art programs, and 3)recent governmental and corporate patronage of the arts through such programs as the National Endowment.

487-6 (3,3) American Art. (a) U.S. art to 1913, study of American art from native Indian settlements through Colonial period to 20th Century. Attention to such art forms as: painting, sculpture, and architecture, as well as the rich and varied Indian folk and craft traditions. (b) U.S. art since 1876, study of American art and design from Industrial Revolution to present. Attention to such traditional art forms as: painting, sculpture, and architecture, as well as many facets of modern design. Prerequisite: 207a,b.

497-3 to 6 (3 per topic) Problems in Art History. A close examination of selected categories of works of art from various periods, media, and cultures, as illustrative of particular art historical problems. Topics will vary and include (a) portraiture, (b) landscape and still life, (c) narrative, (d) other selected topics. Sections (a) through (c) may be taken only once each section, (d) may be repeated as topics vary. Art historical perspectives to include formal analysis, conography, art theory, social history, connoisseurship. Prerequisite: 300 level art history course or consent of instructor.

499-3 to 21 Individual Problems. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art, a 3.0 average, and consent of instructor.

500-3 to 21 Advanced Drawing II. A studio directed toward individual research in the student's major field. Emphasis is placed upon the historical materials, processes, and ideas that form the content and experience of the student's major field. Prerequisite: consent of major adviser.

501-3 to 21 Advanced Painting II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Prerequisite: consent of major adviser.

502-3 to 21 Advanced Printmaking II. Advanced studio course in printmaking directed toward individual research in the student's choice of print media. Emphasis is on the processes which lead to the formation of personal content. Studio fee \$13 per credit hour enrolled. Prerequisite: graduate status and consent of instructor.

503-3 to 21 Advanced Sculpture II. Advanced studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas to form content in the student's medium. Incidental expenses may exceed \$100. Prerequisite: consent of major adviser.

504-3 to 21 Advanced Ceramics II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of ceramic form and content as applied to personal artistic expression. Emphasis upon the development of creative studio research techniques and seminar-type experiences exploring historical and contemporary issues as they relate to ceramic art. Studio fee \$40 to \$80 per credit hour enrolled. Incidental expenses may exceed \$50. Prerequisite: consent of major adviser.

505-3 to 21 Advanced Metalsmithing II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Studio fee \$8 per credit hour enrolled. Prerequisite: consent of major adviser.

506-3 to 21 Advanced Fibers II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of fibers and content as applied to personal artistic expression. Emphasis upon development of creative studio research techniques and seminar-type experience exploring historical and contemporary issues as they relate to fibers. Studio fee \$20 to \$40. Prerequisite: consent of major adviser.

507-3 to 6 (3,3) Readings in Art History. Individual assistance and investigation to discover new meaning and involvement in graduate studio work through the literature of art.

508-2 to 9 (2 to 3, 2 to 3, 2 to 3) Research in Art Education. Each student demonstrates via class presentations, a term paper, surveys of research reports and formulations of research designs, an understanding of advanced art education research procedures, analyses and implications; new process and product research techniques; and research in artistic creativity, perception, and the evolution of art images. Prerequisite: consent of instructor.

514-3 to 21 Glass II. An advanced glass course intended to increase the student's knowledge of the potential of glass as a medium of creative expression and to refine studio skills associated with the material. Coursework will include the investigation of historical and contemporary solutions to aesthetic problems related to the medium. Studio fee \$12 per credit hour enrolled. Prerequisite: consent of major adviser or consent of instructor.

517-3 to 6 (3,3) Concepts in Art History. Group seminar to discuss and present aspects of the history of art in relation to both traditional and contemporary artistic concerns.

518-2 to 9 (2 to 3, 2 to 3, 2 to 3) Seminar

in Art Education. Each student shows evidence, via class presentation, a term paper and evaluations of individual and group projects, an understanding of important literature; the latest developments and trends in philosophical, psychological, and sociological concepts in art education and methods for developing rationale for art curriculum and instruction programs. Prerequisite: consent of instructor.

599-2 to 6 Thesis. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Behavior Analysis and Therapy

(See Rehabilitation.)

Biological Sciences

(See Chapter 2 for description of the biological sciences program.)

Botany

For all field courses in botany, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

400-4 Plant Anatomy. An introduction to cell division, development and maturation of the structures of the vascular plants. Laboratory. Prerequisite: 200 or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 and 205 or consent of instructor.

405-4 The Fungi. A survey of the fungi—their structure, development, relationships, ecological roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: 200; 204 recommended.

410-3 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: 200 or equivalent, or consent of instructor.

411-3 Morphology of Ferns and Fern Allies. The study of external form, internal structure, and relationships of ferns and fern allies. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

412-3 Morphology of Gymnosperms. The study of external form, internal structure, and relationships of gymnosperms. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

413-3 Morphology of Angiosperms. The study of external form, internal structure, and relationships of the flowering plants. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

414-3 Paleobotany. (Same as Geology 414.) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding, and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography, and other techniques. One lecture and three laboratories per week. Prerequisite: 200 or equivalent.

425-10 (5,5) Advanced Plant Physiology. (a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. (b) Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

430-3 Economic Botany. Classification, evolution, domestication, and botanical characteristics of plants useful to people. Offered every year. Prerequisite: 200 or equivalent.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, BIOL 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to vari-

ous biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and BIOL 307 or equivalents.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: BIOL 307 or equivalent.

444-4 Analysis and Classification of Vegetation. Includes concepts and analytical methods pertaining to plant community energetics, nutrient dynamics, succession, vegetation classification and niche theory. Laboratory will include the application of these concepts and methods to field situations. Cost of textbooks and travel fee (\$15) must be incurred by the student. Prerequisite: BIOL 307 or equivalent.

446-4 Tropical Ecology. Two weeks of marine ecology on the atolls and extensive barrier reef off the coast of Belize, British Honduras, and two weeks of terrestrial ecology at several locations inland. Cost varies yearly. Summer. Prerequisite: advanced undergraduate or graduate standing in one of the biological sciences, and concurrent enrollment in ZOOL 446.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, BIOL 307 or equivalents, and consent of instructor.

449-2 Elements of Taxonomy. Principles of taxonomy including historical sketch, phyletic concepts, classical and experimental methods. One lecture and three laboratory hours per week. Prerequisite: 304 or equivalent, or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

451-4 Upland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or GE-A 303 or consent of instructor.

456-2 Advanced Plant Pathology. A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

457-2 Advanced Forest Pathology. A sur-

vey of recent literature on major forest diseases with emphasis on host-parasite interactions and disease control. Students will develop detailed literature reviews on selected pathology problems and design experiments for solving these problems. Two lectures per week. Prerequisite: 357 or consent of instructor.

462-4 Science Process and Concepts for Teachers of Grades N8. (Same as Curriculum and Instruction 427.) Specifically designed to develop those cognitive processes and concepts needed by elementary teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

484-3 Palynology. (See Geology 484.)

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

492-2 to 6 Honors in Botany. Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chair.

500-3 Advanced Plant Anatomy. The study of advanced topics in the anatomy of seed plants. Emphasis is on trends in and adaptive nature of evolutionary modifications of anatomical features and the application of anatomical data to plant systematics. Two lectures and one laboratory per week. Prerequisite: 400 and 421 or equivalent.

501-4 (2,2) Research Transmission Electron Microscopy. (Same as Science 501a,b.)

502-4 (2,2) Research Scanning Electron Microscopy. (Same as Science 502a,b.)

503-10 (5,5) Advanced Angiosperm Taxonomy. Systematic treatment of every family of flowering plants in the world. Must be taken in sequence. Prerequisite: consent of instructor.

524-2 Advanced Plant Genetics. A consideration of incompatibility systems, paramutation, cytoplasmic inheritance, developmental genetics, and other genetic topics as they occur in higher plants. Prerequisite: BIOL 305 or equivalent.

525-3 Cytology. (Same as Zoology 525.) An analysis of the subcellular and cytochemical organization of the cell. Structural-functional aspects of organelles, membranes, and other cellular components, their relationship to the metabolic nucleus, substructural organization of hereditary materials, and subcellular

aspects of mitosis and meiosis are emphasized. Two lectures and one laboratory per week.

526-4 Cytogenetics. A study of structure, transmission, and mutation of nuclear and cytoplasmic genetic elements, with emphasis on the utilization of structural changes in chromosomes and of changes in chromosome number in theoretical and applied genetics. Two lectures and two laboratories per week. Prerequisite: BIOL 305 and 306, or equivalent.

532-3 Embryogenesis and Organography of Plants. A study of the developmental anatomy and comparative morphology of embryophytes, with emphasis on analysis of homologous versus analogous structure. In particular, the following aspects of organ development will be considered: embryological origin, cellular pattern of formation, cytochemical and histological characterization, and diversification in form. Laboratory will allow students to observe the organographic features discussed. Prerequisite: 320, 400, or consent of instructor.

533-3 Plant Growth and Morphogenesis. A study of the role of the environmental variables (light, temperature, etc.) and phytohormones in the growth and morphogenesis of intact plants and tissue cultures. The theories of plant organogenesis and the synthesis, translocation, regulation, and mode of action of the major classes of phytohormones will be treated in light of the most recent literature. Three lectures per week. Prerequisite: 320 or consent of instructor.

534-2 Techniques in Studies of Plant Growth and Development. Instruction in laboratory techniques used in the study of the role of environment and natural plant growth substances in plant morphogenesis. Two two-hour laboratories per week. Prerequisite: 320 or consent of instructor.

535-2 Energetics of Aquatic Ecosystems. Energy flows in aquatic habitats; photosynthesis and respiration rate determinations under natural and laboratory conditions; determination of dominant genera in the communities; daily and annual energy budgets; factors influencing utilization of light by biotic systems; influence of daily and annual energy budgets on stratification on current systems, and on seasonal succession in the community. Prerequisite: consent of instructor.

542-2 Biosystematics. An examination of species concepts and factors affecting the formation of species. Evidence from the fields of ecology, cytotoxicology, genetics, and numerical taxonomy are discussed as well as the phenomena of hybridization, polyploidy, and apomixis. Two lecture and two laboratory hours per week. Prerequisite: consent of instructor.

543-2 Tree Growth. Physiological aspects of tree growth and development. Phases of the life cycle from germination to seed production will be analyzed for effects of light, temperature, moisture, nutrients, mycorrhiza, wind, air pollution, and other factors. Two lectures per week. Prerequisite: 320 or 443 or FOR 331 or equivalent.

551-3 Upland Flora. The taxonomy, ecology,

gy, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or GE-A 303 or consent of instructor.

552-3 Lowland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around aquatic and lowland habitats of the Mississippi Basin. Prerequisite: 304 or GE-A 303 or consent of instructor.

570-2 to 3 Graduate Readings in Botany. A course of individually assigned readings in botanical literature. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

580-1 to 6 (1 per semester) Seminar. One hour discussion of current topics in biology. Every semester. Graded *S/U* only.

584-3 Advanced Palynology. (See Geology 584.)

585-2 to 6 (2 per semester) Advanced Topics in Systematics. A series of systematic topics related to research techniques: (a) botanical nomenclature; (b) botanical Latin; (c) botanical keys and descriptions.

589-1 to 12 (1 per topic per semester) Seminars in Botany. Studies of current and historical research and literature in various topic areas of botany: (a) ecology; (b) bryology; (c) paleobotany; (d) anatomy; (e) systematics; (f) phycology; (g) mycology; (h) pathology; (i) physiology; (j) morphology. Graded *S/U* only.

590-1 to 3 Introduction to Research. General introduction to research techniques. Techniques to be determined by instructor and students. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

591-2 to 9 Research. Assignments involving research and individual problems. (a) anatomy; (b) bryology; (c) ecology; (d) morphology; (e) mycology; (f) paleobotany; (g) pathology; (h) photography; (i) phycology; (j) physiology; (k) systematics. Master's students may use this for their research for their thesis. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

599-2 to 9 Thesis. Course to be taken in the preparation of the master's thesis. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

600-1 to 36 (1 to 12 per semester) Dissertation. Course to be taken in the research for and in writing of the doctoral dissertation. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

must be admitted to the Master of Business Administration, Master of Accountancy, or Doctor of Business Administration degree program or have permission of the associate dean for graduate study in business administration or accountancy.

410-3 Financial Accounting Concepts. Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, and equity valuations and income determination is stressed. Prerequisite: enrollment in M.B.A. program or consent of department; M.B.A. program "computer ability" foundation requirement met.

430-3 Business Finance. An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in M.B.A. program or consent of department; 410, EPSY 506, and M.B.A. program "computer ability" foundation requirement met, or equivalent.

440-3 The Management Process. Analysis of management theories and the administrative process. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in M.B.A. program or consent of department.

450-3 Introduction to Marketing Concepts. An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in M.B.A. program or consent of department.

451-3 Methods of Quantitative Analysis. (Same as Mathematics 457.)

452-3 Operations Research. A survey of operations research techniques with emphasis on problem formulation, model building, and model solution. Topics include mathematical programming, waiting-line models, simulation, and decision theory. Prerequisite: enrollment in M.B.A. program or consent of department; 451, EPSY 506, and M.B.A. program "computer ability" foundation requirement met, or equivalent.

470-3 Legal and Social Environment. An overview of the legal, social, and ethical dimensions which influence business with particular attention to the role of law as a control factor of society in the business world. Prerequisite: enrollment in M.B.A. program or consent of department.

500-3 Research Applications in Business and Organizations. The analysis of actual problems in research: project design, data collection, analysis, interpretation, dissemination, and application in business and organizational settings. This includes an understanding of the proper utilization of appropriate research statistics and involves use of the computer for problem solving. Three lecture and two laboratory hours per week. Prerequisite: enrollment in M.B.A. program or consent

Business Administration

Students desiring to enroll in these courses

of department; M.B.A. program foundation.

502-3 Business in our Capitalistic Society. Study of the external environment in which business in America operates; social, political, legal, and ethical dimension, interrelationships, and requirements. Prerequisite: enrollment in M.B.A. program or consent of department; all M.B.A. program foundation.

510-3 Managerial Accounting and Control Concepts. Basic cost concepts, measures, methods, and systems of internal accounting useful for managerial planning, implementation, control, and performance evaluation. Includes cost analysis relevant for nonroutine decision-making. Prerequisite: enrollment in M.B.A. program or consent of department; 410, and M.B.A. program "computer ability" foundation requirement met, or equivalent.

513-3 Accounting Concepts in Business Organizations. Accounting theory and practice as it applies to business and other organizations. Emphasis is on current problem areas in accounting and on research methods being used to resolve these problems. Prerequisite: enrollment in the D.B.A. program or consent of department.

519-3 Seminar in Accounting. Discussion of current accounting theories, principles, standards, and problems. Prerequisite: enrollment in M.B.A. program or consent of department.

520-3 Production/Operations Management. A survey of the design, operation, and control of systems that produce goods and services. Topics include forecasting, production planning, facility location and layout, inventory management, scheduling, and quality control. Prerequisite: enrollment in M.B.A. program or consent of department; 452 or equivalent.

521-3 Business Conditions Analysis. Emphasis is given to macro-economic theory as it affects economic forecasting. Particular emphasis is given to GNP forecasting models, industry forecasts, and forecasting for the firm. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

526-3 Managerial Economics. Develops conceptual framework for business decision making with emphasis on demand, costs, prices, and profits. Prerequisite: enrollment in M.B.A. program or consent of department.

530-3 Financial Management. A study of financial principles and practices with special emphasis on their relation to managerial planning and control. Prerequisite: enrollment in M.B.A. program or consent of department; 430, 510, and either 526 or ECON 441, and 440, or equivalent.

531-3 Advanced Financial Management. An evaluation of selected financial policies connected with the acquisition and disposition of funds by the firm. An emphasis is placed on quantitative solutions to these problems. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

532-3 Financial Institutions and Markets. The principal financial institutions and

markets will be studied in relation to their contribution to the efficient operation of the individual enterprise and the total company. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

533-3 Investment Concepts. A study of fixed return and variable return securities, investment services, industry and issue analysis, empirical studies of groups and individual stock price movements. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

534-3 Financial Decision Making. Study of the scope and nature of advanced financial decision making and the application of quantitative tools and techniques to decisions relating to working capital, fixed assets, cost of capital, value of the firm, and financial structure. Prerequisite: enrollment in the D.B.A. program or consent of department.

536-3 Advanced Financial Analysis. Deals with examination of classical and various modern treatments of investment, valuation, cost of capital, and capital structure. Portfolio, state-preference, capital markets, options pricing, mergers, and exchange rate theories are explored. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department; 430 or equivalent.

539-1 to 15 Seminar in Finance. A series of doctoral seminars on theoretical and empirical issues in finance. Sections (a) through (d) may be taken only once. Section (e) may be repeated as topics vary. (a) Corporate financial theory. (b) Financial institutions and markets. (c) Portfolio theory and speculative markets. (d) International financial theory. (e) Selected topics. Prerequisite: enrollment in D.B.A. program or consent of department.

540-3 Managerial and Organization Behavior. Case analyses of human problems in the business organization. Application of findings of behavioral science research to organization problems. Development of direction and leadership skills. Prerequisite: enrollment in M.B.A. program or consent of department; 440 or equivalent.

541-3 Operations Research II. Continuation of the survey of topics and approach taken in 452. Problem formulation; model building and elementary mastery of state-of-the-arts solution techniques are emphasized. Topics include integer programming, traveling sales representative problems, probabilistic programming, queuing, simulation and inventory theory. Prerequisite: enrollment in M.B.A. program or consent of department; 452 or equivalent.

543-3 Personnel Management. An overview of the field of personnel administration, based on a review of the relevant literature and on practice in simulations of problems typically encountered in the field. Prerequisite: enrollment in M.B.A. program or consent of department; 440 or equivalent.

544-3 Advanced Production Planning and Inventory Management. An in-depth study of analytical models and techniques for production planning, scheduling, and inventory management. Management science tech-

niques utilized include classical optimization, mathematical programming, and simulation. Prerequisite: enrollment in M.B.A. program or consent of department; 520 or equivalent.

545-3 Organization of Complex Systems. Analysis of organizations as complex systems. Major emphasis is placed on the latest research developments which integrate micro and macro perspectives of organizations. Additional emphasis is placed on a top management perspective of the organization. Prerequisite: enrollment in the D.B.A. program or consent of department.

546-3 Leadership and Managerial Behavior. This course will concentrate on leader and manager behavior at middle and upper organizational levels. Emphasis will be placed on leader and manager effectiveness and the factors that impact effectiveness. Prerequisite: enrollment in M.B.A. program or consent of department; 540 or equivalent.

549-3 Seminar in Administration. Study of contemporary administrative theory and practice with focus on certain special topics, new or current trends, and research. Individual and group projects are emphasized. Specific topics to be covered will be determined by the instructor in consultation with students. Prerequisite: enrollment in M.B.A. program or consent of department.

550-3 Marketing Management. A managerial approach to the study of marketing. Emphasis is on the nature and scope of the marketing manager's responsibilities and on marketing decision making. Prerequisite: enrollment in M.B.A. program or consent of department; 450 or equivalent.

551-3 Product Strategy and Management. Designed to treat product management and its relationships with business policies and procedures; the development of multiproduct strategies, means of developing such strategies, and the problems and methods of commercialization. Prerequisite: enrollment in M.B.A. program or consent of department; 550 or equivalent.

552-3 Research Methodology for Marketing. The study of theory, method, and procedure for quantitative and qualitative analysis of primary and secondary marketing data. Emphasis is placed on application of specific research tools to the process of formulating and testing research hypotheses. Prerequisite: enrollment in D.B.A. program or consent of department.

553-3 Multinational Marketing Management. The basic elements of marketing management are identified in the setting of a global business environment. Emphasis is given to variables in the international markets that effect strategic business planning such as cultural, ethical, political, and economic influences. The course focuses on current trends in the marketing practices of organization. Prerequisite: enrollment in the M.B.A. program or consent of department, 550 and MKTG 435 or equivalent.

554-3 Strategic Issues in Marketing and Society. A critical view of the social, political, legal, and economic impact of strategic mar-

keting decision making. Emphasis is on the ethical and moral ramifications of marketing activities in a complex social environment. Prerequisite: enrollment in M.B.A. program or consent of department.

555-3 Seminar in Consumer Behavior. Emphasis on the theories and research relating behavioral science to the discipline of marketing. Development of sophisticated comprehension of the consumption process is undertaken. Prerequisite: enrollment in D.B.A. program or consent of department.

556-3 Seminar in Marketing Strategy. Long run market opportunities are identified and evaluated. Methods of implementation and execution affecting the relationship of strategic marketing planning to the allocation decisions of top management are emphasized. The orientation is toward theoretical development to provide a base for continuing research in the field. Prerequisite: enrollment in D.B.A. program or consent of department.

557-3 Seminar in Marketing Theory. The philosophical bases underlying the development of theory in marketing. The process of development of marketing ideations through research is emphasized. Prerequisite: enrollment in the D.B.A. program or consent of department.

558-3 Promotional Strategy and Management. The study of the elements of the promotional mix including advertising, personal selling, sales promotion, and publicity, and how they apply in the profit and not-for-profit sectors of the market place. Prerequisite: enrollment in the M.B.A. program or consent of department; 550 or equivalent.

559-3 Seminar in Marketing. Study of current issues and problems in marketing and an evaluation of contemporary marketing theory and practice. Prerequisite: enrollment in M.B.A. program or consent of department; 450 or equivalent.

560-3 Management Information Systems. A survey of information system design, analysis, and operations. Topics include systems concepts, systems analysis and design, database management, software and hardware concepts, decision support systems, distributed processing and telecommunications, and information systems planning. Computer application will be emphasized. Prerequisite: enrollment in M.B.A. program or consent of department; 452 or equivalent.

571-3 Mission and Domain Analysis. A review of the factors influencing how managers formulate or change an organization's mission and domain. Topics include goal formulation, mission and scope definition, defining relevant environments, and strategic evaluation as inputs to the process of defining the long-range roles of private and public organizations in the broader socio-economic system. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department; 450 or equivalent.

572-3 Forecasting and Decision-Making Models. An analytic approach to (a) forecasting conditions that will impact on the organization and (b) evaluating the possible outcome

of alternative actions. Particular emphasis is given to forecasting models, decision theory, simulation and formal planning models. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department; EPSY 506 or equivalent.

573-3 Planning Systems and Strategic Decisions. A critical review of theory and research on the structure, content, and process of strategic decisions. The design and implementation of planning systems also is emphasized. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department.

574-3 Advanced Research Methods in Business Administration. A capstone research course in business administration that exposes the student to a full range of research experiences. Emphasis is on integrating learning and creative thinking in the execution of the research process. Prerequisite: enrollment in D.B.A. program.

580-3 International Business Operations. Course is designed to provide an overview of the international dimension of a firm's operations. Alternative methods for reaching foreign markets, operational adjustments and specific problems in dealing with foreign environments, are the principal areas of consideration. Prerequisite: enrollment in M.B.A. program or consent of department; all M.B.A. program foundation.

591-3 Independent Study. Directed independent study in selected areas of business administration. Prerequisite: enrollment in M.B.A. program, or D.B.A. program, or consent of department; consent of instructor.

598-3 Business Policies. Study of the development and evaluation of business strategies and policies as they relate to the overall performance of the firm within its environment. Knowledge of the functional areas of administration, available business data, and analytical tools will be utilized in solving comprehensive business cases and simulation games. Prerequisite: enrollment for past semester in M.B.A. program.

599-3 to 6 Thesis. Prerequisite: enrollment in M.B.A. program or consent of department; consent of instructor.

600-1 to 24 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Business Administration degree. Prerequisite: advancement to candidacy for the D.B.A. program.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Accountancy

(See course listing under School of Accountancy.)

Finance

There is no graduate program offered through the Department of Finance. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

432-3 Options and Future Markets. Study of modern concepts and issues in financial options and future markets. Emphasis on risk management in financial institutions, and applications in corporate finance and funds management. Not for graduate credit. Prerequisite: 331, and 361 or concurrent.

433-3 Portfolio Theory and Management. Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 331, 361, or concurrent enrollment.

449-3 Management of Financial Institutions. Principal policies and problems which confront management. Emphasis on liquidity, loans, investments, deposits, capital funds, financial statements, organization structure, operations, personnel, cost analysis, and public relations. Not for graduate credit. Prerequisite: 330 and 341.

462-3 Working Capital Management. Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk, and uncertainty; theory and applications in management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 361 or concurrent enrollment.

463-3 Forecasting and Capital Budgeting. Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement, and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 361 or concurrent enrollment.

464-3 International Financial Management. Financial behavior of multinational firms. Emphasis on the modifications of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 361 or concurrent enrollment.

469-3 Managerial Financial Policy. Development of financial strategies and policies based on an evaluation of alternative approaches. Emphasis upon application of financial concepts and techniques to real-life situations. Not for graduate credit. Prerequisite: 361.

480-3 Problems in Labor Law. Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources.

491-1 to 6 Internship in Finance. Designed to provide an opportunity to relate certain types of work experience to the student's academic program and objectives. Approved internship assignments with cooperating companies in the fields of finance are coordinated by a faculty member. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance. Mandatory Pass/Fail.

495-1 to 6 Reading in Finance. Readings in classical and current writing on selected topics in various areas in the field of finance not available through regularly scheduled courses. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance. Mandatory Pass/Fail.

Management

There is no graduate program offered through the Department of Management. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

431-3 Organizational Design and Structure. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaptation of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department, and must be a business (not prebusiness) major.

453-3 Advanced Quantitative Models for Systems Analysis. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department, and must be a business (not prebusiness) major.

456-3 Building Decision Support Systems. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Prerequisite: 345, 352, and junior standing or consent of department, and must be a business (not prebusiness) major.

471-3 Seminar in Entrepreneurship. Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: entrepreneurship, small business analysis, or topics related to the ownership and management of a business. Activities will include library and field research, data analysis, report writing, and active participation in seminar presentations and discussions. This course is designed particularly for the student who has completed the three small business courses numbered 350 and has discussed specific small business or entrepreneurial objectives with the instructor prior to the course. Prerequisite: consent of department, and must be a business (not prebusiness) major.

474-3 Management's Responsibility in Society. Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department, and must be a business (not prebusiness) major.

481-3 Strategic Management and Policy. Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, FIN 330, MKTG 304, or equivalent, and must be a business (not prebusiness) major.

483-3 Advanced Production Operations Management. In-depth study of analytical planning, scheduling, and control theory and techniques in the context of production/operations systems. Case exercises will be utilized to illustrate production management problems and methods. Prerequisite: 318, 352, junior standing or consent of department, and must be a business (not prebusiness) major.

485-3 Organizational Change and Development. Analysis of problems in personnel management with emphasis on current trends and techniques. Case problems, special reports, and experiential approaches are used as a basis for examining ways of using an organization's human resources to best advantage. Prerequisite: 341, junior standing or consent of department, and must be a business (not prebusiness) major.

489-6 (3,3) Seminar. Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary administration, health services administration, data processing management, current issues in management, etc., (a) management, (b) decision sciences. May be taken singly; a student normally takes only one of the two options. Prerequisite: consent of department, and must be a business (not prebusiness) major.

491-1 to 6 Independent Study. Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department, and must be a business (not prebusiness) major.

Marketing

There is no graduate program offered through the Department of Marketing. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, person-

nel, merchandise control, sales promotion, advertising, etc. Retail merchandising through a managerial perspective. Prerequisite: 304 and junior standing or higher, and must be a business (not prebusiness) major or consent of department.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher, and must be a business (not prebusiness) major or consent of department.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgement criteria of the sales function in relationship to the total marketing program. Prerequisite: 304 and MGT 304 or 301 and junior standing or higher, and must be a business (not prebusiness) major or consent of department.

439-3 Industrial Marketing. Analysis of decision criteria related to the marketing of industrial products. Emphasis on program development, formulation of a marketing mix, and the behavioral relationships in the modern industrial organization. Prerequisite: 304 and junior standing or higher, and must be a business (not prebusiness) major or consent of department.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 and junior standing or higher, or consent of department, and must be a business (not prebusiness) major.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher and must be a business (not prebusiness) major or consent of department.

499-1 to 6 (1 to 3, 1 to 3) Marketing Insights. Provides the student an opportunity to participate in an internship program, independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Prerequisite: junior standing or higher, approval of the instructor and the department chair in the semester prior to enrollment and must be a business (not prebusiness) major or consent of department.

Chemistry and Biochemistry

All laboratory courses in chemistry and biochemistry require the student to purchase either special notebooks or workbooks, costing within the range of \$1.50 to \$8.50. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. This policy will apply to undergraduate and graduate students.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds, and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 465a or concurrent enrollment.

416-3 X-Ray Crystallography. (See Geology 416.) Prerequisite: 224 and 225, or 222b, one year of college physics and MATH 150.

431-4 Environmental Analytical Chemistry. Practical applications of common instrumental and wet methods to the determinations of chemical substances in common natural and commercial materials. Techniques will include titrimetry; quantitative transfer of liquids and solids; gas, thin-layer and ion-exchange chromatography; atomic absorption; flame photometry; ion selective electrode potentiometry; and spectrophotometry. The course is intended for senior-level and graduate students in disciplines other than chemistry who desire to know the practical aspects of laboratory measurements. The course is not applicable to a major in chemistry. One lecture, one laboratory-lecture, and two threehour laboratories per week. Prerequisite: 222a,b or nine hours of chemistry excluding general education courses.

434-4 Instrumental Analytical Chemistry. Theory and practice of modern instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week for four credit hours. Enrollment for two credit hours is restricted to graduate students in the Department of Chemistry and Biochemistry advised to take instrumental analysis. Prerequisite: one semester of physical chemistry or concurrent enrollment in 465a.

436-3 Analytical Separations and Analyses. A study of the analyses of complex materials, usually inorganic with emphasis on separations, functional-group chemical analyses, and instrumental applications. Two lectures and one three-hour laboratory per week. Prerequisite: 226 and one semester of physical chemistry which may be taken concurrently.

444-3 Intermediate Organic Chemistry. Intended for incoming graduate students and

advanced preprofessional students. Provides students with intermediate level coverage of organic reactions, mechanisms, syntheses, and structure determination. Emphasis will be on problem solving, including structure elucidation, road map sequences, multistep synthetic sequences, and elucidation of reaction mechanisms including those with stereochemistry and multiple sites of reactivity. Prerequisite: 344, 346, or equivalent, and consent of instructor.

446-4 Qualitative Organic Analysis. A systematic study of the separation and identification of organic compounds. Two lectures and six hours of laboratory per week. Prerequisite: 226 and either 346 and 349 or consent of instructor.

451-6 (3,3) Biochemistry. (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function, and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a, b sequence. Prerequisite: one year of organic chemistry.

455-4 Biochemistry Laboratory. Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 226 or concurrent enrollment; graduate standing in the Department of Chemistry and Biochemistry or consent of the instructor.

465-9 (3,3,3) Physical Chemistry. A three semester sequence of physical chemistry. Three lectures per week. (a) Classical thermodynamics, its applications, and reaction kinetics. Prerequisite: MATH 250. (b) Quantum chemistry and group theory. Prerequisite: MATH 305 or MATH 221. (c) Spectroscopy and statistical mechanics. Prerequisite: 465b. To be taken in a,b,c sequence.

466-2 (1,1) Physical Chemistry Laboratory. A two semester laboratory sequence for CHEM 465. One three hour laboratory per week per semester. (a) Experiments relating to topics covered in CHEM 465a. Prerequisite: CHEM 465a. (b) Experiments relating to topics covered in CHEM 465b, c. Prerequisite: CHEM 465b.

471-2 Industrial Chemistry. A survey of modern industrial chemistry and an introduction to chemical research processes. Two lectures per week. Prerequisite: 346 and 347 or 349.

489-1 to 3 Special Topics in Chemistry. Prerequisite: consent of instructor and chair.

490-2 Chemical Literature. A description of the various sources of chemical information and the techniques for carrying out literature searches. Two lectures per week. Prerequisite: 346 and 347 or 349.

491-2 History of Chemistry. The evolution of chemistry from ancient times until 1920. Two lectures per week.

496-1 to 8 Undergraduate Research (Honors). Introduction to independent research under the direction of a faculty member culminating in a written report. Not for graduate credit. Prerequisite: a 3.0 grade point average, five semesters of chemistry laboratory including one semester of physical chemistry, and consent of instructor and department chair.

502-3 Molecular Orbital Theory. An introduction to molecular orbital theory. Applications and limitations of various methods. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry including quantum mechanics.

511-6 (3,3) Advanced Inorganic Chemistry. (a) Principles of group theory and their application to molecular structure, ligand field theory and its application and magnetic properties of matter. (b) Energetics, kinetics, and mechanisms of inorganic systems. Prerequisite: one year of physical chemistry, 411 or satisfactory completion of 500.

519-1 to 9 (1 to 3 per semester) Advanced Topics in Inorganic Chemistry. Metal ions in biological processes and other selected topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

531-3 Theory of Chemical Analysis. The phenomena utilized in analytical chemistry with emphasis on separations, organic reagents, and complex methods. Three lectures per week. Prerequisite: 436 or equivalent.

532-3 Analytical Chemistry Instrumentation. Theories of design and methods of interfacing components of instruments with applications to optimization of systems for determinations of chemicals in trace concentrations. Two lectures and one three-hour laboratory per week. Prerequisite: 434.

535-3 Advanced Analytical Chemistry. Theory and applications of chromatography; statistics; uses of laboratory computers in chemical instrumentation and data evaluation. Three lectures per week. Lectures will occasionally be used for laboratory operations. Prerequisite: 434.

539-1 to 9 (1 to 3 per semester) Advanced Topics in Analytical Chemistry. Selected topics of interest to practicing analytical chemists such as microanalytical chemistry, functional-group chemical determinations, absorption spectroscopy, and electroanalytical chemistry. Maximum credit nine semester hours. Prerequisite: 434.

541-3 Organic Structure and Reactivity. Structure and reactivity of organic compounds: steric, electronic, kinetic, and thermodynamic aspects. NMR, ESR, IR, and mass spectrometry in structure characterization. Prerequisite: master's degree in chemistry, or a grade of B or better in 446, or passing grade on the organic diagnostic examination.

542-3 Mechanistic Organic Chemistry. Reaction mechanisms in organic chemistry. Orbital symmetry, photochemistry, and the chemistry of the common transient intermediates. Prerequisite: master's degree in chemistry, or a grade of B or better in 446, or passing

grade on the organic chemistry diagnostic examination.

543-3 Synthetic Organic Chemistry. Organic synthesis: classical and modern methods. Prerequisite: master's degree in chemistry, or a grade of *B* or better in 446, or passing grade on the organic chemistry diagnostic examination.

549-1 to 9 (1 to 3 per semester) Advanced Topics in Organic Chemistry. Specialized topics in organic chemistry. The topic to be covered is announced by the department. Maximum credit nine semester hours. Prerequisite: 542.

556-1 to 7 Advanced Biochemistry. A critical treatment of the topics indicated below. A student may select any one, two, three, or all four topics for the indicated credit. (a) -2 Eukaryotic molecular biology. Prerequisite: 451a,b or equivalent; MICRO 460 recommended. (b) -1 Chemical data analysis. Data reduction and analysis with a laboratory microcomputer with examples from chemistry and biochemistry. Prerequisite: 451a,b or equivalent; MICRO 460 recommended. (c) -2 Chemistry and biochemistry of biological membranes. An advanced level introduction to the techniques used to study biological membranes including: electron microscopy, X-ray diffraction, spectroscopy, electrophysiological, and biochemical. Topics will include the latest information from biophysics to molecular biology. Prerequisite: 556a,b. (d) -2 Biophysical methods. Prerequisite: 556a,b,c.

559-1 to 12 (1 to 3 per semester) Selected Topics in Biochemistry. Topic to be announced by the department. Maximum credit twelve semester hours. Prerequisite: 451b.

560-3 Introduction to Quantum Chemistry. Basic principles and applications of quantum mechanics to chemistry. Topics include operator and vector algebra, classical mechanics, angular momentum, approximate methods, hydrogen-like atoms, and molecular electronic structure. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry.

562-6 (3,3) Advanced Molecular Spectroscopy. (a) Theory of rotational and vibrational spectroscopy, electronic spectroscopy of molecules. (b) Magnetic resonance, general theory, spectral analysis, chemical shifts and coupling constants, exchange phenomena, Fourier Transform methods, ^{13}C nuclear magnetic resonance, electron paramagnetic resonance, and hyperfine interactions. Three lectures per week. Prerequisite: 565 or consent of instructor.

564-3 Statistical Thermodynamics. Principles of statistical mechanics and applications to equilibrium and nonequilibrium systems. Topics include ideal gases, monatomic crystals, lattice statistics, the cluster method, correlation functions, Brownian motion, the Boltzmann equation, and the Kubo-Green technique. Three lectures per week. Prerequisite: 465a,b or consent of instructor.

565-3 Group Theory. Applications of group theory to quantum mechanics and spectroscopy.

Three lectures per week. Prerequisite: 465a,b or consent of instructor.

569-1 to 9 (1 to 3 per semester) Advanced Topics in Physical Chemistry. Topic to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

594-2 to 3 Special Readings in Chemistry. Assigned library work in any of the six fields of chemistry with individual instruction by a staff member. (a) Analytical, (b) biochemistry, (c) inorganic, (d) organic, (e) physical, (f) history of chemistry. Maximum credit three hours.

595-1 Advanced Seminar in Chemistry. Advanced level talks presented by graduate students. (a) Analytical, (b) biochemistry, (c) inorganic, (d) organic, and (e) physical chemistry.

597-1 to 15 Professional Training. Experience in teaching of chemistry, instrument operation and special research projects. One hour required each semester in residence. Graded *S/U* only. Prerequisite: graduate standing.

598-1 to 50 (1 to 12 per semester) Research. Maximum credit 50 hours, except by permission of the student's graduate advisory committee. Graded *S/U* only. Prerequisite: consent of chair.

599-1 to 6 Thesis. Maximum credit six hours. Prerequisite: consent of chair.

600-1 to 30 (1 to 12 per semester) Dissertation-Doctoral. Requirement for Ph.D. degree, 24 hours. Maximum credit 30 hours, except by permission of the student's graduate advisory committee. Prerequisite: 598.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Cinema and Photography

Graduate work in the Department of Cinema and Photography is offered toward the Master of Fine Arts degree and the Master of Arts degree in public visual communications. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

Students provide photographic materials for all cinema and photography production courses, students supply their own film, photographic paper, certain specialized chemicals, a fully adjustable 35mm or 120 roll film camera, and \$15 additional cost for laboratory materials for each production course. In motion

picture production courses, students provide their own film, processing, recording materials, and editing supplies. In courses which involve analysis and screening of a number of films, a cost of \$10 per course for screenings will be required.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. A \$15 cost for additional laboratory materials. Prerequisite: 322 or concurrent enrollment and consent of department.

402-3 Sensitometry. An advanced course dealing with the technical and visual applications of the black and white process. Explores the zone system, density parameter system, and practical chemistry. Also deals with the visual application of these systems. Lab fee. Prerequisite: 320 and consent of department.

404-3 Introduction to the Studio. Problems and possibilities in the aesthetics and techniques of studio photography: lighting, visual perception, environment, history, theory. Students purchase texts and provide photographic materials. A \$15 laboratory fee. Prerequisite: 320 and consent of department.

405-3 Applied Photography I. Theory and practice of contemporary commercial/industrial photography. Students provide materials and may purchase texts. Lab fee. Prerequisite: 322 and consent of department.

406-3 Applied Photography II. Practice and ideas of advertising/illustrative and editorial photography. Students purchase materials and may purchase props, texts, and equipment. Lab fee. Prerequisite: 405 and consent of department.

407-3 Photography and the Mass Media. Exploration of the use, context, and meaning of photography in the mass media. The photograph as a communication tool will be evaluated along with the role and responsibility of the photojournalist. Students will apply theoretical concepts through group and individual assignments. Students purchase texts and provide photographic materials. A \$15.00 laboratory fee. Prerequisite: 320 and consent of instructor.

408-3 Documentary Photography: Method, Format, and Distribution. Exploration of the techniques, history, and contemporary context of documentary photography. Audience, publication, and distribution of documentary photographic projects will be addressed. Each student will produce an indepth documentary photographic project. Students purchase texts and provide photographic materials. A \$15.00 laboratory fee. Prerequisite: 332 and consent of department.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students purchase texts and provide photographic materials and chemicals. A \$15 cost

for additional laboratory materials. Prerequisite: 322 and consent of department.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students purchase texts and provide photographic materials and chemicals. A \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Dye Transfer, Kwik Proof and other forms of photo-mechanical reproduction. Students purchase texts and provide photographic materials and chemicals. A \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department.

425-3 to 9 Studio Workshop. An intensive workshop focusing on current trends in photography as a fine art. Topics offered have included landscape photography, architectural photography, imagemaking, introduction to the studio, among others. Students provide photographic materials and chemicals. A \$15 cost for additional laboratory materials. Prerequisite: 322 and consent of department.

426-3 Nonsilver Photography. An advanced course in which the student will learn the basics of working with the hand-applied emulsions of cyanotype, vandyke brownprinting, and gum printing. Students provide materials and chemicals. A \$15 laboratory fee. Prerequisite: 322 and consent of department.

449-3 Survey of Film History. Intensive study of major historical periods of the cinema, including technological developments, national cinema movements, sociological and aesthetic determinations, and concerns of film historiography. Screening fee. It is strongly recommended that C&P majors complete 349 and 360 prior to taking 449.

452-3 Film Planning and Scripting. The screenplay as a basis for production. Practice in preparing film plans, treatments, storyboards, and scripts. Examination of the film industry. Prerequisite: 355 or consent of department.

454-3 Animated Film Production. Practical course for visual expression exploring various animated techniques: developmental, filmographic, rear lit, cut out, line, cel, etc. Students purchase texts, art supplies film materials, and processing. Prerequisite: 355 or consent of department.

455-3 Film Production III. Advanced production by individuals or crews of 16 mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting, and double system sound filming. Students provide film stock, processing, and sound materials. Prerequisite: 356, 452, or consent of department.

456-3 Film Production IV. Continuation of 455 through post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures, and distribution problems. Students provide editing and sound

materials and are responsible for laboratory costs. Prerequisite: 455 and consent of department.

462-3 History of the Documentary Film. Study of the development of the non-fiction film with emphasis on the documentary. Screening fee. Students purchase texts.

463-3 History of the Experimental Film. Study of experimentation in cinema from the turn of the century, to contemporary avant-garde films. Screening fee. Students purchase texts.

465-3 History of the Animated Film. Study of the history, techniques, and aesthetics of the graphic/animated film. Students purchase texts. Screening fee.

466-3 to 6 Film Styles and Genres. Intensive study of a specific body of films grouped by similarities in style, genre, period, or cultural origin. Emphasis on historical, theoretical, and critical issues. Topics vary each semester. Examples: the Western; the French New Wave, Third World cinema; Surrealism in film. Screening fee.

467-3 to 6 Film Authors. Intensive study of the work of one or more film authors (directors, screenwriters, etc.). Emphasis is on historical, theoretical, and critical issues. Topics vary each semester. Examples: the films of Alfred Hitchcock, the films of Jean Renois. Screening fee.

468-3 Advanced Film Theory and Analysis. An intensive study of contemporary film theory with an emphasis on the application of analytic models. Focus is on structural, semiotic, and psychoanalytical theory of the cinema, and the textual analysis of specific films. Screening fee. Prerequisite: 368 or graduate standing.

470-3 to 9 (3,3,3) Advanced Topics. An advanced course concentrating on special topics in cinema and photography. (a) Advanced studies in cinema history/theory. Topics offered have been the information film, feminist and ideological criticism of film. (b) Advanced topics in film production. Topics offered have included motion picture sound workshop, narrative film workshop. (c) Advanced studies in photography. Topics offered have included publication and presentation, the figure, multi-image, fantasy photography, among others. (d) Advanced studies in interdisciplinary topics. Not more than 6 semester hours may be counted for graduate credit. Screening/lab fee. Prerequisite: consent of department.

471-3 to 6 (3,3) Problems in Creative Production: Photography. Conceptual exercises involving different aspects of photographic production. Emphasis is placed upon individual creative response to assignments. Topics vary; may be repeated for a total of 6 credits. Students provide photographic materials and chemicals and may purchase texts. Prerequisite: consent of department.

472-3 to 6 (3,3) Problems in Creative Production: Cinema. An intensive examination, through readings, screenings, and filmmaking, of a cinematic genre, style, movement, or technical challenge. Theory is com-

bined with practice, resulting in a group film production. Previous problems studied have been the pseudo-documentary, 35mm filmmaking, and film as performance. Topics may vary; may be repeated for a total of 6 credits. Prerequisite: consent of department.

491-1 to 9 Individual Study in Cinema or Photography. Research in history, theory, or aesthetics. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department.

492-1 to 3 Practicum. Practical experience in the presentation of photographic theory and procedures. Does not count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

495-1 to 12 Internship in Cinema or Photography. Used to recognize experience with professional film or photographic unit. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

497-1 to 9 Projects in Cinema or Photography. Individual or crew projects in motion picture production or still photography. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. degree in cinema and photography. Not for graduate credit. Prerequisite: consent of department.

499-4 Senior Thesis. Preparation of a film, critical or research paper under the supervision of a cinema and photography faculty member. Normally taken during the last term in residence, the senior thesis is evaluated by the department faculty. The department will retain one copy of all theses. Students interested in producing a film for 499 should have completed 355, 356, 368, and 452 and 9 hours of cinema history courses. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

541A-3 Seminar: History of Photography, 1839 to World War II. Advanced study of the history of photography with emphasis on the development of technique and content. Students purchase texts.

541B-3 Seminar: Contemporary History of Photography. Advanced study of the history of photography with emphasis on the development of technique and content. Students purchase texts.

542A-3 Seminar in Film History: American. Analysis of the films and ideas associated with a particular director or a significant movement in motion picture history. Screening fee. Students purchase texts. Course content varies each semester; may be repeated for a total of 6 credits.

542B-3 Seminar in Film History: International. Analysis of the films and ideas associated with a particular director or a significant movement in motion picture history.

Screening fee. Students purchase texts. Course content varies each semester; may be repeated for a total of 6 credits.

574-3 Contemporary Theory and Analysis of Cinema. An intensive examination of the dominant recent theoretical approaches to the cinema. The application of cinema of semiology and structuralism, with very recent branches into psychoanalysis and ideology, will be concentrated upon. Films related to the issues under study are assigned for viewing. Students purchase texts.

575-6 (3,3) Contemporary Theory and Analysis of Photography. Selected readings in the aesthetics and philosophy of photography. Students purchase texts. Weekly reading assignments, discussions, midterm exam, and final paper. Topics vary; may be repeated for a total of 6 credits. Prerequisite: consent of instructor.

591-1 to 6 Individual Study in Cinema and Photography. Supervised research or independent creative work, the area of study to be determined by the student in consultation with cinema and photography faculty. Prerequisite: consent of department.

595-1 to 4 (1,1,1,1) Graduate Seminar. A seminar for graduate degree candidates focusing on the artistic development of the participants. (a) Graduate seminar in photography. (b) Graduate seminar in film production. Prerequisite: admission to the M.F.A. program in still photography or the M.A. program in public visual communications.

597-1 to 16 M.F.A. Projects. Supervised independent creative work, the amount and exact nature of which is to be determined in consultation with the cinema and photography faculty. Prerequisite: admission to the M.F.A. program and consent of department.

598-1 to 6 M.F.A. Final Creative Project. Supervised independent creative work leading to the completion of the M.F.A. creative project requirement. Registration for six hours of 598 is required of each M.F.A. candidate. Prerequisite: admission to the M.F.A. program and consent of the department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Civil Engineering and Mechanics

(See Engineering.)

Communication Disorders and Sciences

408-3 Communication Disorders: Craniofacial Anomalies. An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Association problems of personal and social adjustments are also examined. Prerequisite: 105, 214, 318, or consent of instructor.

419-3 Communication Problems of the Hearing Impaired. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303, 316, or equivalents, or consent of instructor.

420-3 Introduction to Audiological Disorders and Evaluation. Bases of professional field of audiology (orientation, acoustics, anatomy, and physiology of the auditory system), major disease processes influencing hearing and their manifestations, measurement of hearing loss. Prerequisite: 3.0 GPA in program retention courses or concurrent enrollment and consent of instructor, or graduate standing.

428-3 Communication Disorders and the Classroom Teacher. Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.

431-1 to 6 (1 to 3, 1 to 3) Biofeedback Communication. An investigation into the experimental approaches for the study of the phenomena of speech. Evoked potential and signal averaging techniques, psychophysiological methodology. Laboratory experience with various biofeedback instrumentation, EMG, EEG, temperature, ECG, etc. Open to non-majors.

438-2 Problems of Communication and the Process of Aging. Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. For non-majors only. Prerequisite: senior or graduate standing.

450-3 Neuroanatomical Basis of Human Communication. Examination of the central nervous system (brain and spinal cord) as it relates to normal and disordered human communication. Presentation of basic neuroanatomy, common neuropathologies relevant to communication disorders, and strategies in neurogenic problem solving. Prerequisite: 214, 307 or consent of instructor.

485-1 to 3 Special Topics in Communication Disorders and Sciences. Topical presentations of current information on special interests of the faculty not otherwise covered in the curriculum. Designed to promote better understanding of recent developments related to disorders of verbal communication. Open to advanced undergraduate and graduate students with consent of instructor.

489-1 Seminar in Developmental Psycho-Neurolinguistics. Seminar will explore current issues in the area of developmental psycholinguistics and neurolinguistics. Included will be normal language use and development, as well as disordered language use and development; foreign/second as well as first language will be included. Development will be interpreted to mean life-span. Same as PSYCH 489 and LING 489. Prerequisite: consent of instructor(s).

491-1 to 3 Individual Study. Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chair. Prerequisite: consent of chair.

494-1 to 12 (1-4 per area) Advanced Clinical Practice: Speech/Language. Advanced clinical practicum in (a) articulation and phonology, (b) language disorders, (c) voice disorders, and (d) fluency disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and the preparation of reports. For communication disorders and sciences majors only. Prerequisite: (a) 302, 392, and 393 or equivalents and consent of the chair; (b) 303, 392, and 393 or equivalents and consent of the chair; (c) 318, 392, and 393 or concurrent enrollment or equivalent courses and consent of the chair; (d) 319, 392, and 393, or equivalent courses and consent of the chair.

496-1 to 2 (1,1) Advanced Clinical Practice: Hearing Disorders. Advanced clinical practice in hearing disorders. Emphasis will be placed on rehabilitative procedures in audiology. For communication disorders and sciences majors only. Prerequisite: 316 and 493 or equivalents and consent of chair.

497-1 to 2 (1,1) Advanced Clinical Practice: Hearing Diagnostics. Advanced clinical practice in hearing diagnostics. Emphasis will be placed on diagnostic techniques used in the preparation of basic and advanced audiological reports. For communication disorders and sciences majors only. Prerequisite: 316, 420, and 493 or equivalents and consent of chair.

500-3 Research Design in Speech Pathology and Audiology. Evaluation of the strategies and procedural tactics of behavioral research.

503-3 Laboratory Instrumentation in Speech-Language and Hearing Science. Physiological, acoustical, and biomedical recording, measurement and analysis of the speech encoder, decoder, and code for clinical and research applications. Prerequisite: 203 or consent of instructor.

505-3 Phonological Acquisition. An introductory discussion of the important linguistic, physiological, and acoustic variables which affect language production at the segmental and suprasegmental level of language; and an historical examination of the growth and development of distinctive feature systems from 1920 to the present. Concentration upon the mathematical, logical, physiological, and acoustic assumptions of the various matrices which have been developed. Prerequisite: 302 or equivalent and consent of instructor.

507-3 Language Acquisition. Discussion of the application of current theoretical implications and research findings to the syntactically impaired. This course emphasizes diagnostic and therapeutic models applicable to language disorders. Opportunities for research and clinical experience with young children displaying developmental language problems will be provided. Required for master's students. Prerequisite: 303 or equivalent and consent of instructor.

510-3 Stuttering: Behavior Assessment and Therapy. Explores the assumptions underlying diagnosis and assessment. Procedures specific to the differential assessment of fluency failures are examined, evaluated, and related to therapeutic strategies and the tactics of behavior change. Prerequisite: 319 or equivalent, and consent of instructor.

512-3 Voice Disorders. An intensive study of the variables of air stream modulation resulting from impaired structures and function of head and neck. Prerequisite: 318 or equivalent and consent of instructor.

517-3 Seminar: Language Disorders in Children. Students will explore current theories of syntactical and semantic acquisition with an emphasis upon applicability to clinical research and methodology. An historical review of linguistic theory will form the basis for discussion of research approaches in psycholinguistics. Students will review psycholinguistic research and devise paradigms appropriate for the study of verbal impairment. Elective course for master's and doctoral candidates. Prerequisite: 303 or equivalent and consent of instructor.

521-3 Audiology II: Peripheral and Central Auditory Tests. Application of special behavioral auditory techniques used for site-of-lesion testing, basic anatomical and neurological correlates of abnormal auditory behavior. Prerequisites: 420 or equivalent and consent of instructor.

525-3 Amplification for the Hearing Impaired. Clinical and laboratory methods of evaluating hearing aid performance; counseling of adult clients, parents and teachers; professional relationship of audiologist to otologists and to hearing aid dealers; use and evaluation of individual and classroom auditory trainers. Prerequisites: 420 and consent of instructor.

526-3 Audiology III: Objective Procedures and Hearing Conservation. Theory and practice in the use of objective auditory procedures such as acoustic immittance measures, auditory brainstem response, and event related potentials; also a consideration of techniques used in hearing conservation such as environmental noise controls and identification audiometry. Prerequisites: 420, and consent of instructor.

528-3 Seminar: Physio- and Psycho-Acoustics of the Ear. Advanced study of the physiological responses of the middle and inner ear to the acoustic stimulus, in relation to major theories of auditory function; advanced study of behavioral responses to the major parameters of the acoustic stimulus; threshold sensitivity, loudness, pitch, localization,

beats, and masking. Prerequisite: 316 or equivalent and consent of instructor.

530-3 Aural Rehabilitation/Auditory Perceptual Disorders. Advanced study of aural (re) habilitative principles and practices for children and adults as well as diagnoses and remediation of auditory perceptual disorders. Prerequisites: 420, 521, 525, and consent of instructor.

533-3 to 6 (3,3) Seminar: Speech and Auditory Perception. Special problems in hearing and communication science. Students may choose from a wide range of topics: speech acoustic, kinesthetic and vibrotactile perception, voiceprint identification, synthetic and compressed speech, digital speech, electrostimulation of hearing, and neurophysiological basis for perception. One or more topics are pursued in depth. The seminar may be repeated for a total of six hours with different content. Prerequisite: consent of instructor.

536-3 Seminar: Administration of Speech and Hearing Programs. Program settings, organizational procedures, and professional interrelationships in adult speech and hearing therapy. Field trips to rehabilitation centers and related agencies.

540-3 Neurogenic Disorders of Communication I. Focus on aphasia and neurolinguistic science. A clinically oriented presentation of the aphasias, and related CNS language disturbances, will be integrated with an introduction to the broader field of neurolinguistics. Clinical aspects will focus on assessment of rehabilitation approaches in aphasia and related disorders. Other topics include cortical language representation, hemispheric functions (general), and review of basic neurolinguistic literature. Prerequisite: 450 or consent of instructor.

541-3 Neurogenic Disorders of Communication II. Focus on the role of the pyramidal and extrapyramidal motor systems in speech production and speech disorders related to abnormalities in these motor systems. Discussion of the neurological basis and clinical management of the dysarthrias and verbal apraxia. Prerequisite: 540 or consent of instructor.

544-3 Seminar: Phonological Disorders in Children. An historical examination of the growth and development of distinctive feature systems from 1920 to the present. Concentrates on the mathematical, logical, physiological, and acoustic assumptions of the various matrices which have been developed. Prerequisite: 302 or equivalent and consent of instructor.

548-3 Seminar: Stuttering Behavior—Theory and Research. Examines modern learning theory approaches to fluency failure. The learning models dealt with are critically examined in relation to clinical and experimental data. Also reviews the research data on stuttering in relation to design, methodology, and technology. Discussions serve as the background for original investigations. Prerequisite: 319 or equivalent and consent of instructor.

550-1 to 15 Professional Training Seminar. A special seminar that provides doctoral students the opportunity to prepare and present papers on various aspects of speech-language pathology and audiology. Liberal discussion will follow each paper. All doctoral students are required to enroll for one credit each semester until admitted to candidacy. Graded *S/U* only. Only four credit hours are counted toward the Ph.D. degree.

590-1 to 4 (1 to 2, 1 to 2) Readings in Speech-Language Pathology and Audiology. Supervised and directed readings in specific areas of speech pathology and in audiology. Maximum of two hours counted toward master's degree. Prerequisite: consent of chair.

593-1 to 3 Research Problems in Speech-Language Pathology and Audiology. Individual work upon selected problems for research. Prerequisite: consent of chair.

598-1 to 3 Internship in Speech-Language Pathology and Audiology. Internship in a selected medical center, hospital clinic, community agency, or private clinic. The internship provides the student with an intensive, professional, clinical experience under supervision of qualified and certified resident staff members. Prerequisite: consent of chair.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Communications and Fine Arts

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

Community Development

401-3 Introduction to Community Development. This course surveys the field of community development, an applied social science that encourages self-reliance by generating change and growth strategies for groups and communities. The course focuses on the history and philosophy of community development, citizen rights issues, change techniques, value dilemmas confronting change agents,

and examination of some current community development programs.

402-3 Third World Community Development. Analyses of the history, goals, methods, and techniques of socioeconomic development in the Third World countries. Cultural, economic, social structural, political, and administrative factors in development and in the process of community organization are discussed. Case studies from Africa, Asia, and Latin America.

403-3 Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues.

404-3 Role Theory and Analysis in Community Development. The focus of this course is on role theory and methods of analysis. The student will gain considerable exposure to the techniques of role analysis as an evaluation tool in community development training and program development.

405-3 Social Planning. Introduction to the methods, practices, functions, and ethics of social planning in the United States, including a critical perspective. Criminal justice, health, manpower, welfare, and other sectors of social planning will be discussed to illustrate the principles of social planning.

489-3 Field Service Seminar. (Same as Social Work 489.) This seminar is to be taken concurrently with 495 or SW 495. May not be taken for credit if credit has been earned in 389 or SW 289. Prerequisite: consent of instructor.

491-1 to 6 Independent Study in Community Development. Supervised individual study and projects in keeping with the needs of each student. Prerequisite: consent of instructor.

495-1 to 6 Advanced Field Services Practicum in Southern Illinois. (Same as Social Work 495.) This course is directed at upperclassmen and graduate students volunteering service to community, social service, or health agencies in southern Illinois. Credit based on time spent in direct service. Approval of agency required for registration. May not be taken for credit if credit has been earned in 295 or SW 295. Mandatory Pass/Fail for undergraduates.

497-1 to 12 (1 to 3 per topic) Seminar in Community Development. The identification and analysis of special problems in community development. (a) Project funding, evaluating, and reporting; (b) central and peripheral systems in community development; (c) community development cooperatives and credit unions; (d) research problems and methods; (e) special problems. Credit limited to not more than three per topic and not more than 12 total.

500-3 Research Seminar in Community Development. Introduction to research design, theory, sampling, data collection (both qualitative and quantitative), information retrieval, data analysis, and research criticism. Content based on community issues and concerns. Students are encouraged to incorporate

their interests and projects into the course work.

501-4 Small Group Process in Community Development. This course combines theory and laboratory methods in giving the student greater awareness of the dynamics of individual interaction in small groups. Such issues as authority, leadership, power, trust, decision making, communication, problem solving, goal setting and attainment, giving and receiving feedback, resource utilization, and evaluation are covered in both theory and laboratory sessions.

502-3 Community and Change. Analyses of causes of social problems and methods for planned change at community level. Local community problems are examined in the context of wider socio-economic and political settings. Changing patterns of community in the United States and elsewhere are explored.

503-3 Community Development Practice. Focuses upon a range of community development problems, models, and practical skills. Observation of field consultants, community organizers and agencies, and persons skilled in and programs demonstrating distinctive approaches to community development. Prerequisite: 401.

589-2 Community Development Internship Seminar. To prepare student for supervised field internship experience. Must be taken concurrently with (or as a prerequisite to) 595, Internship.

593-1 to 6 Individual Research in Community Development. Enables an advanced student to do independent study in community development under the supervision of a faculty member or to pursue work on a terminal research report or advanced field project. Prerequisite: 500 and consent of instructor.

595-1 to 8 Internship. A supervised field experience to acquaint students with problems, situations, and challenges typical of community development work. Students develop a community-based project which allows them to gain experience while demonstrating proficiency in appropriate skills. Personal growth and professional potential are considered in evaluating the intern's field performance. Seven credit hours (350 field hours) are required for the M.S. degree; additional work may be taken as elective hours, calculated at 50 clock hours per semester hour. Graded S/U only. Prerequisite: 589 or concurrent enrollment and consent of internship coordinator.

599-1 to 6 Thesis Research. Credit is given for work accomplished on a master's thesis when it is accepted and approved by the thesis committee. Prerequisite: 500 and approval of thesis committee chair.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment

in any other course is not permitted. Graded *S/U* or *DEF* only.

Computer Science

401-3 Computer Architecture. Review of logical circuit design. Hardware description languages. Algorithms for high speed addition, multiplication, and division. Pipelined arithmetic. Implementation and control issues using PLA's and micro-programming control. Cache and main memory design. Input/output. Introduction to interconnection networks and multiprocessor organization. Prerequisite: 306 and 315 each with a grade of *C* or better.

411-3 Programming Languages. Study of the significant features of existing programming languages with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax and semantics, representation and evaluation of simple statements, grouping of statements, scopes and storage allocation, procedures. Prerequisite: 220 and 302 each with a grade of *C* or better; a working knowledge of at least two of the high-level languages covered by the 311 courses is recommended.

414-3 Operating Systems. An introduction to the different components of operating systems including I/O programming, memory management, virtual memory, process management, concurrency, device management, file management. Prerequisite: 306 and 330 each with a grade of *C* or better and a working knowledge of the language C.

416-3 Compiler Construction. Introduction to compiler construction. Design of a simple complete compiler, including lexical analysis, syntactical analysis, type checking, and code generation. Prerequisite: 411 with a grade of *C* or better.

430-3 Database Systems. A comprehensive treatment of database systems, including network, hierarchical, and relational systems. Prerequisite: 330 with a grade of *C* or better.

435-3 Software Design and Development. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, system specification, human interfaces, modular design, improved programming techniques, and program verification and validation. Prerequisite: 306 and 330, each with a grade of *C* or better.

436-3 Artificial Intelligence I. Search and heuristics, problem reduction. Predicate calculus, automated theorem proving. Knowledge representation. Applications of artificial intelligence. Parallel processing in artificial intelligence. Prerequisite: 315 with a grade of *C* or better; at least one of 311L, or 311P, or concurrent enrollment.

440-3 Introduction to Computer Networks. Design and analysis of computer communication networks. Topics to be covered in-

clude: queuing systems, data transmission, data link protocols, topological design, routing, flow control, security and privacy, and network performance evaluation. Prerequisites: 306 and 315 each with a grade of *C* or better and MATH 380.

447-3 Introduction to Graph Theory. (Same as Mathematics 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cutpoints, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Headwood's Theorem, flows in networks and Ford-Fulkerson Theorem and critical path analysis. Prerequisite: MATH 221, and CS 315, or MATH 319.

449-3 Introduction to Combinatorics. (Same as Mathematics 449.) An introduction to combinatorial mathematics with computing applications. Topics include selection and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 315 or MATH 319 or consent of department.

451-3 Introduction to Automata and the Theory of Computing. The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, Turing machines and recursive functions. Relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 306 and 315 each with a grade of *C* or better.

455-3 Design and Analysis of Computer Algorithms. Introduction to design, analysis, and complexity of algorithms. Searching/sorting algorithms, polynomial and matrix algorithms, graph theoretic algorithms. Introduction to complexity theory. Prerequisite: 315 and 330, each with a grade of *C* or better and MATH 380.

464-6 (3,3) Numerical Analysis. (Same as Mathematics 475.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of non-linear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Prerequisite: (a) MATH 221 and 250 and a working knowledge of FORTRAN. (b) 464a and MATH 305.

470-3 Computer Simulation Techniques. Applications and rationale. Design and analysis of discrete simulation models. Generation of random sequences and stochastic variates. Simulation languages. Prerequisite: 202 and MATH 380.

471-3 Introduction to Optimization Techniques. (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202 and MATH 221 and 250.

472-3 Linear Programming. (Same as Mathematics 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 202 and MATH 221.

485-3 Computer Graphics. Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 220 and 302 each with a grade of C or better, MATH 150 and 221 are recommended.

490-1 to 6 (1 to 3 per semester) Readings. Supervised readings in selected subjects. Prerequisite: consent of instructor and department.

491-1 to 4 Special Topics. Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.

492-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Prerequisite: consent of department.

493-1 to 4 Seminar. Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

501-3 Advanced Computer Architecture. Hardware and software elements of multiprocessors, multicomputers, pipeline and array machines, data flow architecture, and other state-of-the-art architectures. Design principles related to machine structures, interconnection networks, control software and hardware, data storage, and access. Prerequisite: 401.

502-3 Design and Analysis of VLSI Systems. The theory, technology, fabrication, and design of digital integrated circuits that are commonly used in modern computers. Construction and analysis of algorithms for VLSI design such as: PLA minimizer and folder, design rule checker, circuit extractor, and router. Silicon compiler. Prerequisite: 401.

503-3 Fault-Tolerant Computing Systems. An introduction to different aspects of fault-tolerance in computing systems. Concurrent checking techniques. Redundancy techniques. Evaluation methods. System-level diagnosis and fault-tolerant VLSI architectures. Prerequisite: 401.

511-3 Formal Specification of Programming Languages. A survey of modeling techniques and meta languages for the formal specification of the syntax and semantics of high-level programming languages. Prerequisite: 411.

512-3 Declarative Programming. An advanced level course on nonprocedural programming with emphasis on logic programming, pure functional programming, and the characteristics of the declarative style common to these two paradigms. Topics include logic programming, functional programming, implementation consideration for each along

with current research topics in the areas. Prerequisite: 411.

514-3 Advanced Operating Systems. Rigorous treatment of advanced topics in operating systems. Multiprocessor and distributed operating systems. Highly concurrent machines. Performance analysis of memory management and scheduling algorithms. Security in operating systems. Prerequisite: 414.

516-3 Advanced Compilers. A continuation of 416 including advanced topics in lexical and syntax analysis, error recovery, semantic analysis, code optimization, and compiler compilers. Prerequisite: 416.

530-3 Advanced Data Base System. A detailed treatment of advanced topics in data base systems including, but not limited or restricted to, relational database theory, query optimization, recovery techniques, concurrency control, distributed database systems, security and integrity, and database machines. Prerequisite: 430.

532-3 to 6 Topics in Information Systems. A detailed study of two or three topics relevant to information systems. Topics may include but are not limited to sorting, searching, information retrieval and automatic text processing, database security and encryption, distributed databases, and data communication. Prerequisite: 430 and consent of instructor.

536-3 Artificial Intelligence II. Theorem proving, the Resolution Principle, strategies, and achievements. Program verification. Natural language processing. Other selected topics. Prerequisite: 436.

540-3 Parallel Processing. An advanced treatment of the theory and implementation of parallel processing. Topics include architectural considerations, parallel programming on multiprocessor and multicomputer systems, and the identification and exploitation of parallelism in algorithms. Prerequisite: consent of instructor.

553-3 Formal Languages and Automata. The Chomsky hierarchy of formal grammars and the corresponding classes of automata. Turing machines and basic concepts of computability. Recursive and recursively enumerable languages. Closure properties. Undecidable problems about Turing machines and context-free languages. Deterministic context-free languages and the construction of LR parsers. Prerequisite: 451.

555-3 Theory of Computability. Turing machines and other models of computation. Computable functions. Church's thesis. Solvable and unsolvable problems. Introduction to complexity theory including the classes P and NP. Polynomial time approximation algorithms for NP-complete problems. Prerequisite: 451.

564-1 to 12 Advanced Topics in Numerical Analysis. (Same as Mathematics 572.) Selected advanced topics in Numerical Analysis chosen from such areas as: approximation theory; numerical solution of initial value problems; numerical solution of boundary value problems; numerical linear algebra; numerical methods of optimization; functional ana-

lytic methods. Prerequisite: consent of instructor.

570-3 to 9 per topic (3,3,3) Topics in Operations Research. (Same as Mathematics 570.) (a) Netflows. Builds on network and generalized network models for the transportation, transshipment, assignment, shortest path, maximal flow. Prerequisite: 472 or MATH 472. (b) Advanced computer simulation. Review of GPSS. Advanced topics in GPSS. Generation of random variates. Validation, parametric, and nonparametric tests. Design of experiments, optimization, parameter tuning. Analysis of variance, spectral analysis, and variance reduction. Prerequisite: 470 and MATH 480 or 483. (c) Large scale linear programming. Advanced L.P. techniques for sparse matrices and reinversion routines. Prerequisite: 472 or MATH 472. (d) Nonlinear programming. Integer programming with branch and bound and cutting plane methods for solving integer programming problems. Basic dynamic programming with emphasis on the methods and applications. Prerequisite: 472 or MATH 472.

585-3 Advanced Topics in Computer Graphics. Study of computer graphics for realistic image synthesis. Object modeling and associated data structures. Advanced rendering techniques such as raytracing and radiosity. Efficiency considerations. Image composition and compression. Current advances and research problems in realistic computer graphics. Prerequisite: 485.

586-3 Pattern Recognition and Image Processing. An introduction to the area of computer vision for the purpose of restoration, segmentation, encoding, analysis, and recognition of pictures. Topics include: image transforms, edge detection, smoothing, filtering, pseudo-coloring, syntactic methods in scene analysis, parametric decision theory, nonparametric decision theory, linear discriminant functions, parameter estimation, supervised learning, and unsupervised learning. Prerequisite: 220 and MATH 380 or consent of instructor.

590-1 to 9 Readings. Supervised readings in selected subjects. Graded *S/U* only. Prerequisite: consent of instructor and department.

591-1 to 9 (1 to 3 per topic) Special Topics. Selected advanced topics from the various fields of computer science.

592-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Graded *S/U* only. Prerequisite: consent of department.

593-1 to 4 Seminar. Preparation and presentation of reports. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 5 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum the-

sis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Curriculum and Instruction

400-2 Simulation and Gaming. The role of simulation and gaming in instruction, the availability of commercial games and simulation devices, and the theoretical backgrounds used in constructing teacher-made games are to be examined.

402-3 Education for Disadvantaged and Culturally Different Students. The student examines the characteristics of behavior and learning patterns of culturally different and socioeconomically disadvantaged children. Content also includes school adjustment, experiential background, self-concept, language development, and appropriate teacher behaviors and teaching strategies.

404-3 Infant Development. Current theories and knowledge concerning growth and development of infants with related laboratory field experiences. Prerequisite: 237, or PSYC 301, or equivalent.

405-4 Methodologies for Group Care of Infants and Toddlers. Application of theories of development of children up to age three in a care and stimulation practicum. Development of competencies and skills needed by infant/toddler specialists and professionals. Three hours seminar, 2 hours practicum. Prerequisite: 404 or consent of instructor.

407-3 to 9 (3 per topic) Diagnostic and Corrective Techniques for the Classroom Teacher. A presentation of diagnostic and remediation techniques with emphasis placed on appropriate methods and materials to be used in classrooms in the areas of (c) language arts, (e) mathematics, and (f) reading. Prerequisite: special methods course in field selected by student or consent of instructor.

409-3 Creative Teaching. To assist preand in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: EDUC 302.

410-2 Creative Writing in the Public School. Techniques of encouraging creative writings in the schools.

412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3). Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) language arts, (d) science, (e) mathematics, (f) reading, and (g) social studies. Prerequisite: specialized methods/course for the field of study selected by the student.

413-3 Language Development of the Young Child, 0-8. The normal language development and communication skills of the young child will be the focus of this course.

Attention will be given to an integrated, holistic philosophy toward development and learning in young children age 0-8. Specifically focusing upon social and environmental influences on the development of language and literacy, students will observe, listen, record, and analyze samples of young children's communication.

414-3 Practicum in Parent-Child Study. Designed to increase student's ability to work with parents and parent groups through an awareness of factors in the parent-child relationship and knowledge of current research and methods in parent education. Integration with infant and child development laboratories and related field experiences. Prerequisite: 227, 237, or equivalent.

415-3 Modern Approaches to Teaching Middle School Mathematics (Grades 4-8). Examines current mathematics materials and teaching approaches. Hands-on experience with a multitude of teaching aids including microcomputers and problem solving materials. Student exchange of ideas and discussion of activities for classroom use. Prerequisite: 315 or consent of instructor.

417-3 Administration of Pre-School Programs. Planning and organizing programs for preschool or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 318 and 319.

418-3 History and Philosophy of Early Childhood Education. A survey of the history and philosophies of early childhood education with its implication for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: 316, 318, senior or graduate standing.

419-3 Parent Involvement in Education. Materials, techniques, and resources suitable for use by teachers in helping parents and teachers to understand how they can help each other in the partnership responsibilities of the education of children from a variety of backgrounds. Prerequisite: 317, student teaching, or consent of instructor.

420-3 Teaching the Adult Functional Illiterate. The emphasis in the course is on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunity available to the majority of citizens. Prerequisite: permission of instructor.

423-3 Teaching Elementary School English Language Arts. Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment, and resources.

424-3 Teaching Elementary School Social Studies. Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum,

and evaluating behavioral change. Study of learning materials, specialized equipment, and resources.

426-3 An Introduction to Teaching Elementary School Science. Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462.) Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

428-3 Inquiry Skills for Teaching Junior and Senior High School Science. The major focus will be the application of inquiry skills as used in all areas of science instruction at the junior and senior high school levels. Students will be expected to demonstrate mastery of basic and integrated science process skills through conducting and reporting results of science investigations.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and integration of literature in preschool, elementary, and library settings.

436-1 Bibliography and Literature of Education. Introduction to the use of library resources for research in education. Includes bibliographies in education, periodical literature, College of Education publications, dissertation and thesis indexing services, and Educational Resources Information Center (ERIC) materials. Students will learn to search the literature in preparation for literature review and will compile bibliographies in their own field of interest.

437-3 Instructional Technology in Training Programs in Business and Industry. Examines the role that performance and instructional technology plays in current training practices in business and industry. The organization, staffing, budgeting, and evaluation of training and development departments are presented. The kinds of performance problems typically encountered by corporate training departments are addressed. Field trips are expected.

438-3 Introduction to Technical Services. Organization of library materials. Emphasis on cataloging and classification. Includes acquisition, processing, and circulation of materials. The Dewey Decimal classification system and Sears list of subject headings are stressed. Laboratory assignments.

439-3 Basic Reference Sources. Introduction to the principles and methods of reference work. Concentration on the study and examination of the tools which form the basic reference collection of the school and the community college library.

440-3 Selection of School Library Media. Evaluation of print and non-print materials,

resources and services; competencies for efficient purchasing and selecting of library materials. Includes selection principles and problems for elementary, secondary, and community college libraries.

442-4 Administration of the School Media Program. Functions and management of elementary and secondary school library media programs with emphasis on services, personnel, financial aspects, facilities, and evaluation. Current issues and trends as reflected in the literature. Field trips to school library media centers.

445-3 Library Media for Young Adults. The selection and use of books and other educational media for students in the junior high and senior high school.

450-3 Photography for Teachers. Photography as a tool of communication in the modern school. Techniques of camera handling, visually planning a story, macro-photography, and color slides. A \$10 laboratory fee is required.

451-3 Photographic Preparation of Educational Media. Techniques of photography used in producing prints, overhead transparencies, daylight slides, high contrast materials, picture stories, filmstrips, and other photographic instructional materials. A \$10 laboratory fee is required. Prerequisite: 450 or consent of instructor.

452-3 Small Format Video Production in Education. An introduction to small format black and white and color video equipment in educational settings. Emphasis is on understanding the role of video as an instructional and informational tool and on the principles of design that determine instructional video's effectiveness.

453-3 Production of Educational Media I. Principles, skills, and techniques in the design and production of basic nonphotographic educational media. Experience includes applying lettering, coloring, and mounting techniques to projected and nonprojected media.

455-3 Design and Development of Self-Instruction Systems. Introduction to the theory and practice of self-instruction systems with a particular emphasis on the creation of instruction for mastery. Various self-instruction systems are reviewed and procedures for designing, developing, and evaluating these systems are discussed. Includes planning a teaching unit and creating a self-instruction package for the unit.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of programming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the pre and early adolescent student. It is anticipated that the student will

be able to plan and develop teaching units and evaluate procedures complementary to this portion of the school structure.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

465-3 Advanced Teaching Methods. The focus is on a variety of teaching methods and strategies which are appropriate for secondary and post-secondary school educators. Both individual and group methods are emphasized.

467-3 Methods and Materials in the Education of the Gifted. Content focuses on the most appropriate instructional strategies and materials to be utilized with the gifted. Time is spent practicing teaching models, designing materials, and developing teaching units. Emphasis also is placed on techniques for individualizing instruction for gifted and talented students.

468-3 Science Methods for Junior and Senior High Schools. A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: EDUC 302 or consent of instructor.

469-3 Teaching Social Studies in the Secondary School. Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels.

480-3 Introduction to Computer Based Education. Introduction to microcomputers and their uses in the classroom, including computer evolution, languages and authoring systems, instructional modalities, word processing, instructional management, and software evaluation. Utility functions and basic commands in programming are also introduced.

481-3 Instructional Applications of Mainframe Computers. Design, development, and programming of computer-assisted instructional materials using interactive, time-sharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.

483-6 (3,3) Instructional Applications of Microcomputers. A study of the development and use of microcomputers and microcomputer systems in educational settings. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons with case studies of their integration into the teaching learning process.

486-3 Instructional Authoring Systems. Designed to give experience in using authoring systems, languages and utilities for design, production and integration of computer-assisted instruction into educational settings. Tools will include Superpilot, Author, and various commercial and consortium authoring tools. Prerequisite: 480 or consent of instructor.

495-2 to 8 Field Experience. Supervised learning experiences in community nursery schools and public agencies. Eight hours maximum for students enrolled in preschool certification specialization only. Other students limited to an enrollment of six hours maximum. Prerequisite: consent of instructor.

496-2 to 6 (2 to 4 per semester) Field Study Abroad. Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.

498-1 to 15 (1 to 3 per topic) Workshops in Education. Acquaints teachers within a single school system or in a closely associated cluster of school systems with underlying assumptions and practical considerations involved with the implementation of new programs and practices in each of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood, (i) elementary education, (j) the middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teaching education. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

500-3 Introduction to Research Methods in Education. An introduction to research methodology as it is applied in carrying out educational studies. Basic skills of planning, executing, and reporting educational research will be studied and applied, with the construction of a research proposal as a term project.

501-3 Organization and Administration of Reading Programs. For reading specialists, consultants, supervisors, and instructional leaders. Recent trends in organization, administration of reading programs, K-community college; materials, equipment, budget for special programs; study of roles of various personnel; and in-service preparation programs. Specific problems of class members are studied. Prerequisite: 512 or 561.

503-3 Introduction to the Curriculum. Deals with the nature, purposes, and functions of curriculum planning and development; curriculum design and organizations; curriculum implementation and maintenance; and curriculum evaluation as each component relates to the total curriculum.

504-3 Systematic Approaches to Instruction. Gives graduate students an opportunity to investigate, discuss, and apply systematic approaches to instruction. Special emphasis is given to that element of the instructional system which allows for the integration of instructional media into the process.

506-3 Professional Services for Diverse Family Structures. Case analysis of different family structures through seminar teams. Each team will be responsible for analysis of the interaction of the family structure and the

economic, nutritional, and socializing activities carried out within the family-household. Role and sources of assistance through current programs will be included. Prerequisite: consent of instructor.

507-3 Impact of Public Intervention on Family Life. An analysis of implications of pending and existing legislation as it relates to the economic, nutritional, and interactive aspects of the family treated as a system. Prerequisite: consent of instructor.

508-3 Systematic Observation and Analysis of Instruction. Students will learn to use conferencing techniques and to construct and use valid and reliable systematic observation instruments to provide the basis for analysis and feedback about classroom instruction.

509-3 Foundations of Environmental Education. Designed specifically to provide teachers, administrators, and curriculum specialists with the knowledge and skills necessary to implement environmental education strategies in both elementary and middle schools. Includes work in ecological foundations, programs currently in use, unit designs, methods, and research. One or two field trips may be required.

510-3 Values Education Curriculum. Alternative views of the impact of schooling on children's values will be explored. Current curricular approaches to moral education will be examined with special emphasis given to values clarification and the cognitive-developmental approach of Lawrence Kohlberg. Psychological and philosophical assumptions underlying the major approaches to moral education will be critically examined.

511-3 Seminar in Psychology of Elementary School Subjects. Psychological principles of learning theories as applied to the mastery of materials used in elementary and early childhood education school subjects. Emphasis is placed on implications of theories of learning for curriculum development and instruction.

512-3 Reading in the Elementary School. First course in the reading sequence. Survey of the reading process. Introduction to factors affecting the reading process, the common core of skills, teaching strategies, materials, and research.

513-3 Kindergarten-Primary Reading. A survey of problems and methodology in the developmental reading program for the primary grades. Emphasis placed upon prevention of reading difficulties.

514-3 The Pre-School Child. Growth of the child from birth to six years with emphasis on the various aspects of growth and the interrelationships.

515-3 Advanced Remediation in Mathematics. Strategies for the design of prescribed systematic instruction for correcting identified mathematics difficulties. Experience in designing and preparing materials for corrective purposes. Prerequisite: 407E or consent of instructor.

516-3 Teaching Mathematics in the Elementary School. Master's degree level

course which acquaints the student with approaches to teaching, development of curriculum materials, and authoritative positions on the mathematics of grades K-8. Emphasis on teaching aids, problem solving, and recent developments at this level. Prerequisite: 315 or consent of instructor.

517-3 Early Childhood Programs: Organization and Administration. Presents an overview of the organization and administration of programs for children ages three to eight with experiences in planning for operating and administering such programs. Prerequisite: 316, 518, or consent of instructor.

518-3 Early Childhood Curriculum and Methods. A survey of current problems and practices in early childhood education for children from three to eight years of age, with emphasis on reading in current research literature. Prerequisite: consent of the instructor.

519-3 Early Child Development Through Home and Preschool. The normal health development of children as it takes place in the home and is promoted by the curriculum of early childhood facilities.

520-3 The Language Arts in Bilingual Classrooms. Designed for the teacher who wants to develop the expertise necessary to provide appropriate language arts activities for children in a bicultural classroom. Specific areas covered include the basics of second language learning, assessment of language ability, high motivation language development activities, resource identification and utilization, and evaluation of performance and of available materials, textbooks, and equipment.

521-8 (4,4) Diagnosis and Correction of Reading Disabilities. Causes of reading difficulties, observation and interview procedures; standardized tests, instruments, and informal inventories; analysis techniques; experiences in preparing materials for corrective purposes. Each student diagnoses and treats a reading disability case under supervision. Prerequisite: 512 or 561 and consent of instructor.

522-3 Teaching Reading Skills to College Students. Designed to discuss, develop, and demonstrate techniques of teaching reading skills to college students. A very important aspect of this course is practical tutoring sections. Prerequisite: permission of instructor.

523-3 Language Arts in the Elementary School. The practical bearing of investigation and theory on the improvement of current practices in the teaching of the language arts other than reading. Attention given to evaluation of teaching materials in these areas. Prerequisite: 423.

524-3 Teaching the Social Studies in the Elementary School. A study of theory and practices of teaching and developing programs in elementary school social studies. Particular attention to be given to trends and issues in social studies. Various social studies models will be examined and evaluated for practical use. Students must demonstrate behaviorally the competencies and skills related

to successful performance in the teaching of social studies.

525-3 Applications of Microcomputers to Mathematics Education. Emphasis placed on using the microcomputer as a tool in problem solving. Instruction in programming in Pascal and operating the Apple microcomputer with special attention to practical use of materials in the mathematics classroom and exploration of various other uses of the microcomputer.

526-3 Problems in Elementary School Science Education. Emphasis upon identifying problems and trends within elementary school science education and planning for research in this field. Prerequisite: 426.

527-3 Advanced Family Studies. A study of factors that promote satisfactions with the immediate family; planning and preparing teaching units, and source materials in this field.

528-3 Methods for Teaching Mathematics in the Preschool and Early Childhood Grades (Pre K-3). Acquaints the student with the learning characteristics of children and teaching methods at grades pre K-3. Emphasis on concrete manipulative teaching aids, learning readiness, and diagnosis of learning difficulties. Prerequisite: 315 or consent of instructor.

529-3 Modern Approaches to Teaching Secondary School Mathematics. (Same as Mathematics 511.) Topics will include problem solving, applications of mathematics, and teaching proofs in secondary school mathematics. Practical classroom use of materials will also be emphasized. Prerequisite: consent of instructor.

530-3 Teaching Problem Solving in School Mathematics (Grades K-8). Designed to acquaint teachers with problem solving processes and how to integrate problem solving into their teaching. Emphasis is placed on teaching the process of problem solving. Prerequisite: graduate standing or consent of adviser.

531-3 The Elementary School Curriculum. An introductory course in curriculum designed to assist teachers and administrators in making operational decisions in elementary education which are based on knowledge of foundations of elementary education, organization of learning experiences, research in specialized areas, materials and methods, instructional programming and evaluation. Students are required to exhibit curriculum competencies through the creation of products and through demonstration of skill.

532-3 Courseware Design and Analysis. The analysis of principles and strategies employed in the design of computer based courseware and computer based training materials. Emphasis is upon examining educational, social, and psychological learning principles and the assumptions used by authors of computer software in the design of K-12 software and computer based training materials.

533-3 Instructional Leadership in Elementary Education. A study of research and related literature concerning various in-

structional leadership styles and behaviors. Major attention is given to such behaviors as they apply to the local school and the individual classroom situation.

534-3 Organization of the Elementary School. An analysis of types of elementary school organizations with special attention to influence of school organization upon the educational program. Application of research findings to selection and use of materials of instruction. Special consideration to classroom teacher's professional problems.

538-3 Organization of the Nonbook Collection. The application of standard library techniques to the organization, storage, distribution, and physical processing of all types of nonbook materials with emphasis on cataloging and classification. Prerequisite: 438.

539-3 Reference Services of the Media Program. Designed to round out the student's preparation for reference work in an elementary school, secondary school, or community college media program. The techniques of developing a reference service with attention to the needs of special user groups. Preparation of bibliographies on subjects of current topical interest and a term project on a specific issue or problem. Prerequisite: 439.

540-3 Mass Communication in Education. The communication theories of recognized authorities in the field will be studied. These theories will be applied to the use of mass media in education. Radio, television, comic books, newspapers, magazines, and motion pictures will be discussed.

542-3 Administration of an Educational Media Center. Designed to further the training of specialists in selected issues associated with the supervision and management of integrated programs of media services. Current and emerging administrative roles, responsibilities, and practices are examined in the context of providing effective and efficient services to media users. Prerequisite: 442 or consent of instructor.

543-3 Automation of Information Centers. A study of selected retrospective, current, and emerging characteristics, capabilities, applications, and implications of automation to information centers located in public schools, colleges, communities, government agencies, and the private sector.

544-3 Community College Media Programs. A survey of community college media programs in the U.S., their philosophy and objectives, practices and procedures, and research in the field. Prerequisite: consent of instructor.

546-3 The Library of Congress Classification Scheme. The study of the Library of Congress classification scheme as it is utilized in community college libraries. Prerequisite: 438.

548-3 Production of Educational Media II. Advanced use of audio, graphic, and photographic principles and techniques applied to the design and production of educational media to meet specific objectives. Includes application of a basic model of the design process. A \$10 laboratory fee is required. Prerequisite: 453 and 450 or consent of instructor.

549-2 Designing Multi-Image Learning Materials. The acquisition of skills in designing, producing, and showing multi-image learning materials. Students should possess photographic skills and a 35 mm camera. A \$10 laboratory fee is required.

551-3 Survey of Research and Developments in Educational Media. Survey of research, research techniques, needed research, and new developments and programs in educational media. Prerequisite: consent of instructor.

553-3 Instructional Development. Intended for media specialists and instructional developers, this course applies current research and technology to the solution of instructional problems. The student is guided through the systematic process of identifying instructional problems, specifying objectives, analyzing tasks and learners, organizing resources, specifying methods and media, and assessing outcomes. The role of the instructional developer as a helping professional will also be examined. Prerequisite: 504.

554-3 Utilization of Educational Media. The utilization of print and nonprint materials in instructional implementation and curriculum development. Structured for teachers, media directors, administrators, and instructional designers. The increasing role of technological advances in education is stressed as they relate to learning theory and curriculum development.

555-3 Visual Communication. How to communicate with pictures in the classroom, the design of still and motion pictures, pictures used in teaching perception, and the place of pictures in advertising and communication.

556-3 Learning Discovery Systems in the Computerized Classroom. Survey and use of learning discovery systems for microcomputers, especially LOGO. Course includes microcomputer operation, software utilization, program evaluation, creation and use of microworlds in the classroom, and cross-curriculum applications. Prerequisite: 480 or consent of instructor.

560-3 Instructional Television. The field of educational broadcasting is explored, with special emphasis on public and school television. History and philosophy are included. Problems of programming and their effect on society are studied. The relationship between broadcasting and the viewing public is investigated, and the responsibility of each is established. Emphasis is also placed upon principles of ITV administration and inservice training.

561-3 Reading in the Secondary School. For the junior and senior high school teachers who desire a foundation in reading. Emphasis placed on the basic skills appraisal of reading abilities, materials of instruction, and methods of teaching reading in the content areas.

564-3 Curriculum Development for Gifted Students. Presentations related to the knowledge and decision-making required to develop curriculum for gifted students, including philosophy, goals, and objectives; designing and sequencing activities; curriculum

models for gifted students; evaluation and modification of curriculum. Emphasis is placed on the development of curriculum for gifted students to be used in schools.

566-3 Instructional Strategies for Problem Solving. The focus is on developing those teaching strategies which will foster and enhance problem solving skills and heuristic thinking. Representative of these teaching skills would be inductive and deductive approaches, discovery and inquiry techniques, and questioning strategies.

569-3 Principles and Trends in Secondary School Social Studies Education. An evaluation and study of social studies trends and practices as they are related to curriculum, organization, and instruction at the junior and senior high school and community college levels.

571-3 Secondary School Curriculum. An introductory course designed to explore the nature and development of the curriculum at the secondary school level. Historical perspective and foundations of curriculum are examined. Functional applications to the public secondary schools are emphasized.

572-2 History and Philosophy of Bilingual/Bicultural Education. Surveys major influences in the development of bilingual/bicultural education in the United States and presents the major philosophical positions affecting this development. Students will also choose one or more specific related areas for concentrated investigation.

573-3 Perspectives on the Future and Its Schools. Deals with the future development of education and social trends which will influence that development. Emphasis is placed upon alternative models of education and their social bases.

574-2 Psycho- and Sociolinguistic Considerations in a Bilingual/Bicultural Classroom. Acquaints educators with possible sources of psycholinguistic and sociolinguistic problems in the bilingual classroom and equips them with techniques for utilizing, modifying, and counteracting those influences.

575-3 Critical Issues in Instructional Supervision. Students will examine the history, nature, and evolution of supervision for instructional improvement. Students will be introduced to concepts, theory, and research findings from many fields of study that have implications for today's supervisory process. Supervisory assumptions and practices will be examined in light of current knowledge of teaching effectiveness.

576-3 Critical Issues in Teacher Education. Students will examine critical issues, problems, and trends in teacher education. Emphasis is placed on strategies for clarifying the issues, solving the problems, and examining the possible impact of the trends.

577-3 Seminar in International Mathematics in Education. Deals with goals, contents, teaching methods, teacher training, curriculum development, and research literature on mathematics education at the international

level. Prerequisite: graduate standing or consent of adviser.

578-3 Advanced Study of Mathematics Education. Study of the practical and theoretical development of mathematics curricula and instruction, and viewing mathematics curricula and instruction from philosophical and psychological perspectives. Prerequisite: advanced graduate study or consent of adviser.

580-3 Current Trends in Education. Trends, issues, problems in education related to the student, program, school organization, staff, material and media, the school building, and the process of innovation and change.

582-3 Advanced Research Methods in Education. The study and application of advanced skills used in planning, executing, reporting, and utilizing educational research. Prerequisite: 500 or evidence of equivalent research competencies.

583-3 Instructional Theory, Principles, and Practices. Presentation of conceptual formulations and skills concerning instructional theory and principles; foundations of instruction; instructional systems and models; delivery processes (logistics), systems, and maintenance of quality control; and evaluation of teachers and students.

584-3 Curriculum Theory, Foundations, and Principles. Presentation of conceptual formulations concerning curriculum theory and propositions; foundations: philosophy, sociology, and learning theories; the curriculum system and its components; crucial issues in developing a curriculum theory; and theoretical curriculum models: analysis and assessment.

585-1 to 15 (1 to 3 per semester) Topical Seminar. A graduate level seminar that involves the study of special problems and related research associated with practical educational situations. Problems available for critiquing and analyzing are the following: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, and (q) family studies, (r) computer based education, (s) gifted and talented education, (t) teacher education. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

586-3 Curriculum Design and Development. Presentations concerning educational planning and curricular decision-making relating to curriculum: aims, goals, and objectives; nature of knowledge, disciplines, and subjects; curriculum structures: sequence and scope; substantive structural models; content and activity selection, product analysis and production; evaluation; and curriculum modification and change.

587-3 Curriculum Implementation and Evaluation. Attention is given to preparing the curriculum specialist to use appropriate

techniques and skills to put curriculum programs into practice and to assess the effectiveness of such programs in terms of a wide range of variables which indicate success or need for curricular modification.

589-3 The Work of the Director of Curriculum and Instruction. The role of the director of curriculum and instruction is the focus of this course. Such topics as the background, current status, and tasks and functions of the position are examined. Additionally, such broad areas of the director's role as needs assessment, program planning and evaluation, and in-service education planning are covered. Prerequisite: 586 or 587 or consent of instructor.

590-1 to 15 (1 to 3 per topic) Independent Readings. Directed readings in literature and research in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood, (i) elementary education, (j) middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. Maximum of four hours toward a master's degree. Prerequisite: consent of instructor.

593-1 to 15 (1 to 3 per topic) Individual Research in Education. The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental graduate staff, in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood, (i) elementary education, (j) middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. Maximum of three hours counted toward a master's degree. Prerequisite: consent of instructor.

594-(2 to 9 per topic) Practicum. For master's degree students: professional consultation, teaching demonstration, practical application of advanced theory, work with clinical cases, or program development implementation, and evaluation in school systems, community colleges, or universities. In addition, may involve reading and research directed to special problems involved in on-site situations. Practicum is available in the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood, (i) elementary education, (j) middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teach-

er education. A maximum of nine hours credit may be applied toward a master's degree. Prerequisite: consent of instructor.

595-(2 to 8 per topic) Internship. Culminating experience for Ph.D. or specialist degree students. Students engage in specialized service areas either in their own or a cooperating school or school system or university. Weekly on-campus or on-site seminar will be held with the intern supervisor. Internship areas are: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood, (i) elementary education, (j) middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational media, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. A maximum of eight hours credit may be applied toward a Ph.D. or specialist degree. Prerequisite: consent of instructor.

596-3 to 6 Independent Investigation. Field study required of each student pursuing for the sixth year specialist degree. The work should be conducted in the setting of the educational system in which the student is employed or where cooperation is extended. The study involves selecting the problem, survey of pertinent literature, recording results, and appropriate interpretations and summarizations. Graded S/U only. Prerequisite: consent of instructor and admission to sixth-year specialist degree program.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: admission to master's degree program.

600-1 to 32 (1 to 12 per semester) Dissertation. Minimum of 24 hours for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Economics

408-3 Economics and Business Statistics II. A continuation of 308 which includes the construction, interpretation, and use of economic data. Topics include correlation, regression, decision making, index numbers, time series analysis, forecasting, and other statistical techniques used in analyzing economic and business data. No graduate credit for economics majors. Prerequisite: 308 or equivalent.

416-3 Money and Banking II. An examination of the principal institutions whose joint actions determine the supply of money in the

United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315 or 340 or 341 or consent of instructor.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment and agrarian reform. Prerequisite: 322 or 340 or 341 or consent of instructor.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340 or 341 or consent of instructor.

425-4 Economics in Geography and Planning. (Same as Geography 422.) Concepts, symbols, language, theory, elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: GEOG 300 or consent of instructor.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340, 341, and MATH 117, or 140, or 150, or consent of instructor.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330, or 340, or 341, or consent of instructor.

436-3 Government and Labor. (Same as Political Science 428.) Influence of government and law on collective bargaining, on the internal operation of unions and on job discrimination in the public and private sectors. Prerequisite: GE-B 211 and 212 or equivalents or consent of instructor.

440-3 Price, Output, and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly, and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 215 or consent of instructor.

441-3 Contemporary Macroeconomic Theory. An examination of the causes of inflation, unemployment, and fluctuations in aggregate economic activity factors affecting

consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary, and incomes policies facing the United States government. Not open to students who have had 341. Prerequisite: 214 or consent of instructor.

443-3 Honors Seminar in Economics. Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economics majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340, 341, and MATH 117, or 140, or 150, or consent of instructor.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 214 and 215; or GE-B 211; or consent of instructor.

465-4 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and MATH 117 or 140, or consent of instructor.

467-3 Mathematical Statistics in Economics. Introduction to the use of statistical inference and distribution theory for measuring and testing economic theory. Prerequisite: MATH 117, 140 or 150, or consent of instructor.

471-3 Land Resource Economics. (See Agribusiness Economics 440.)

474-3 Antitrust and Regulation. The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 374, or 340, or consent of instructor.

479-3 Problems in Business and Economics. Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 215; 308 or Administrative Sciences 208; MKTG 304; MATH 117, or 140, or 150, or consent of instructor.

481-3 Comparative Economic Systems. Capitalism, socialism, communism, and other forms of social organization are examined from a theoretical point of view. Economic and social theories from Adam Smith and Karl Marx to Milton Friedman and Paul Sweezy will be examined. Prerequisite: 340 or 440 or consent of instructor.

500-3 to 24 (3 per topic) Economics Seminar. A study of a common, general topic in the field of economics with individual reports on special topics. Prerequisite: consent of instructor.

501-1 to 21 Economics Readings. Readings from books and periodicals in economics. Master's degree students limited to a total of six hours. Prerequisite: consent of instructor and chair.

502-1 to 4 Readings in Resource Economics. (See Forestry 590.)

507-1 to 4 (1,1,1,1) Practicum in Undergraduate Teaching. Emphasizes teaching methods, source materials, and preparation of classroom materials. All teaching assistants must enroll. One hour of credit per semester. Graded S/U only.

510-2 Research in Economics: Design, Methodology, and Presentation. Systematic approach to economic research. Includes research planning and design, exploration of the various sources of data, and most frequently used methodology. The last part of the course is concentrated on techniques for communicating the results of research. Prerequisite: consent of instructor.

511-3 Advanced Mathematical Economics. A continuation of topics in 465 with more emphasis on proofs. Topics include economic applications of integration, differential equations, and real analysis. Prerequisite: 465 and MATH 211, or consent of the instructor.

512-3 Seminar in Labor Institutions. Multi-disciplinary approach to collective bargaining in the private and public sectors, considering industrial relations theory, and the economic effects of collective bargaining. Readings and cases. Prerequisite: 310 or equivalent or consent of instructor.

517-3 Monetary Theory and Policy. A survey of contemporary monetary theory and related policy issues. Prerequisite: 541 or consent of instructor.

518-3 Monetary Theory and Policy II. Contemporary topics in monetary theory and policy, including analysis of the roles of money in inflation and economic growth, and an appraisal of the conduct and impact of monetary policy. Prerequisite: 517 or consent of instructor.

520-6 (3,3) Economic Development Theory and Policy. (a) Classical, neoclassical, and modern contributions to the theory of development; theories of underdevelopment. (b) Basic approaches to economic development; laissez-faire; balanced growth; unbalanced growth; role of government; methods of planning; and foreign aid. Must be taken in a,b sequence. Prerequisite: consent of instructor.

522-3 Microeconomic Foundations of Labor Markets. The approach is theoretical. Topics include the theory of wage and employment determination, labor mobility, labor market imperfections, the special problems of minority group labor, and trade union issues. Prerequisite: 538, or 540b, or consent of instructor.

525-4 Seminar in Economics in Geography and Planning. (Same as Geography 522.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in

the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects and programs by students. Prerequisite: 422 or consent of instructor.

530-3 Foreign Trade. Emphasis on the advanced theory of international trade, survey of significant literature in international theory. Study of more advanced tools of analysis. Prerequisite: 340, or 440, or consent of instructor.

531-3 International Finance. Application of theory to current international economic developments. Empirical studies. Prerequisite: 329 or consent of instructor.

532-3 Economics of Human Resources. The study of institutions and policies designed to solve manpower problems. Emphasizes such topical areas as unemployment, underemployment, manpower training and development, labor market behavior, vocational education, labor problems of the handicapped, the aged, women, and minority groups, health economics, economics of education and poverty. Prerequisite: consent of instructor.

533-3 Public Finance Theory and Practice. Historical development of public finance theories with analysis of their policy implications. Prerequisite: 330 or consent of instructor.

534-3 Economics of Taxation. This course examines from a theoretical and applied point-of-view, various economic aspects of taxation. Other government revenue sources may also be analyzed such as inter-governmental grants and debt. Emphasis is on application of microeconomic theory to problems in taxation. Usual topics include: equity in taxation, shifting and incidence of taxes, excess burden of taxes, other economic effects of taxes, tax reform, debt. Prerequisite: 330 and 340, or 440, or consent of instructor.

540A-3 Microeconomic Theory I. The course provides the basic theoretical knowledge necessary for microeconomic research in business and government. Prerequisite: 340, or 400, or consent of instructor.

540B-3 Microeconomic Theory II. A contemporary course in partial equilibrium analysis. Topics include the theory of the firm, market structure, and the theory of the consumer. The course frequently takes an axiomatic approach; consequently there are many formal statements and proofs of theorems. Prerequisite: 465 and MATH 221, or MATH 150, 221, and 250, or consent of instructor.

540C-3 Microeconomic Theory III. A contemporary course in general equilibrium analysis. Topics include equilibrium in an exchange economy, equilibrium with production, and welfare implications of general equilibrium. The existence and uniqueness of equilibrium and the concept of the core of an economy are studied in detail. Prerequisite: 511, 540B or MATH 352, or consent of instructor.

541-6 (3,3) Macroeconomic Theory I and II. Taken in a, b sequence except with consent of instructor. Prerequisite: 341 or 441 or consent of instructor.

542-6 (3,3) Industrial organization. (a) Industrial organization I. A study of the variety of forms of competition among firms. Topics include theories of the firm, oligopoly theory, theories of entry, product differentiation, and innovation. Prerequisites: 440 and 441. **(b)** Industrial organization II. A survey of government policy toward industry. Topics include antitrust: mergers, concentration and unfair trade practices, regulation of public utilities, peak load pricing, product, safety, and environmental regulation. Prerequisites: 440 and 441.

545-3 Resource Economics. A survey of theoretical and institutional aspects of energy production, distribution, consumption, and regulation. Topics covered include cartel theory, history of energy use, theory of resource exhaustion, models of energy demand and supply, past and current policy issues, and environmental protection. Prerequisite: 467 and 440, or consent of instructor.

546-3 Workshop in Resource Economics. A research seminar on topics related to energy production, distribution, consumption, and regulation. Meetings will be divided among presentations of research of (a) faculty, (b) students, and (c) outside speakers, offered every semester. Maximum of three hours toward master's degree in economics. Prerequisite: 545.

552-3 Seminar in Economic Thought. An exploration of the basic philosophic assumptions which underlie the various types of economic thought with special emphasis upon the historical development of the premises of modern day economic theories. Prerequisite: 450a or b or consent of instructor.

555-3 Seminar in Economic History. An examination of the structural economic changes in various economies throughout the world. Prerequisite: consent of instructor.

562-3 Seminar in Economic Systems. A final, theoretically-oriented examination of economic systems. Includes recent theoretical models; contemporary changes in major economic systems; the emergence of mixed systems. Relates economic, social, and political systems and evaluates attempts to place economic systems within the context of general systems theory. Prerequisite: 481 or consent of instructor.

565-3 Applied Econometric Analysis. Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis, and simultaneous equations. Prerequisite: 467 or consent of instructor.

566-3 Mathematical Economics II. Linear economic models. Linear programming. Input-output analysis and general equilibrium models. Prerequisite: 340, or 440, or 465, or consent of instructor.

567-6 (3,3) Applied Econometrics I and II. (a) Linear regression analysis as applied to single equation economic models. Problems of least squares maximum likelihood, and asymptotic theory are introduced. Generalized

least squares, lagged model, and qualitative dependent variables are analyzed. The emphasis is on both theory and application. **(b)** A continuation of topics introduced in (a) with applications to various areas of economics. To be taken in sequence. Prerequisite: 467 or consent of instructor.

570-3 Seminar in Contemporary Microeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on microeconomic problems. Prerequisite: 540b.

571-3 Seminar in Contemporary Macroeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on macroeconomic problems. Prerequisite: 541b or consent of instructor.

575-6 (3,3) Economic Theory I and II. (a) A rigorous treatment of the foundations of econometrics theory. Asymptotic theory is stressed. The single equation model is developed. **(b)** Rigorous treatment of simultaneous equations systems including identification, limited information estimation, and full information. Properties of dynamic simultaneous equation models are developed. Inference is introduced into models which combine time series and cross-sectional data. To be taken in sequence. Prerequisite: 567b.

583-3 Methodological Foundations of Economics. A systematic analysis of the nature, philosophical content, premises, scope, boundaries, and characteristic methods of economics. The history of economic thought is drawn upon, but major focus is upon the contemporary state of the discipline as well as upon apparent methodological trends. Prerequisite: 340 or 440, and 341, or 441, or consent of instructor.

585-3 Seminar in Social Economy. Interrelations between economic institutions and processes within the larger societal context. Applicable economic, political, and social theory, as well as empirical studies brought to bear. Prerequisite: 340, or 440, or consent of instructor.

590-1 to 8 (1 per semester) Seminar in Contemporary Economics. Presentation and discussion of current research in economics. One hour credit per semester. Graded S/U only.

598-1 to 3 Research Paper. Preparation of a research paper for a master's degree. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Minimum of four hours to be counted toward a master's degree. Graded S/U only.

600-1 to 36 (1 to 16 per semester) Doctoral Dissertation. Hours and credit to be arranged by director of graduate studies. Graded S/U only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to

register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Education

400-1 to 4 Student Teaching. A requirement in the undergraduate professional education sequence, 400 represents preliminary student teaching experiences necessary for certification by entitlement. For undergraduate students who are majoring in special education and are seeking entitlement to more than one teaching certification in the state of Illinois. Enrollment in this course must be arranged through the Office of Teacher Education. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 312.

401-1 to 12 Student Teaching. A requirement in the undergraduate professional education sequence, 401 concludes the sequence of field experiences necessary for certification by entitlement. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 317.

402-5 to 8 Student Teaching for Provisionally Certified Teachers. Offered for purposes of converting a provisional teaching certificate to a standard teaching certificate. The student teaching experience may be provided for in the position of employment under the supervision of a university supervisor. Enrollment in the course must be arranged with the coordinator of professional education experience in the Office of Teacher Education. For undergraduate credit only. Prerequisite: consent of instructor, provisional certificate, and teaching experience.

450-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

550-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

590-4 Doctoral Seminar in Cultural Foundations of Education. This seminar is one of two courses required for all students pursuing a doctoral program in the College of Education. The primary objectives are to aid in the development of the doctoral student's own nature and reflective theory of education; to help students pursue their scholarly activities in relation to the whole field of education; and to make the student aware of the resources of scholarship in other disciplines which might be said to be foundational to education. Prerequisite: admission to the Ph.D. program in education.

591-4 Doctoral Seminar in Behavioral Foundations of Education. This seminar is one of two courses required for all students

pursuing a doctoral program in the College of Education. The primary objectives are to aid the student in describing the attitudes, assumptions, and practices which underlie empirical inquiry; to help the student to recognize the strengths and weaknesses of the various types of research in terms of methodology employed; and to aid the student in identifying and refining a research question and constructing a research design appropriate to answer the research question. Prerequisite: admission to the Ph.D. program in education.

Educational Administration and Higher Education

402-1 to 3 Principles of Student Personnel Group Work. Acquaints the student with group work possibilities and functions in higher education.

420-3 Foundations for Differential Education of the Gifted. The formulation and analysis of foundation bases for differential education for the gifted (DEG); i.e., establishment of a historical, philosophical, epistemological, and sociological frame work for the emerging sub-field of education.

430-3 History of Education in the United States. An historical study of the problems of American education.

431-3 Workshop in Adult in Adult and Community Education. (See Educational Leadership 431.)

432-3 Education and Social Forces. A study of the social forces that shape educational policies in the United States.

454-3 Contrasting Philosophies of Education. An examination of current educational problems and trends in the light of contrasting philosophies of education.

455-3 Introduction to Adult and Continuing Education. Introduces the multifaceted areas of adult and continuing education in traditional and non-traditional settings by reviewing and studying philosophies, directions, program efforts, and activities associated with them.

475-3 Administration of Staff Development Programs in Adult and Continuing Education. Review and examination of the needs, problems, administrative requirement, and alternatives available for staff development in adult and continuing education. Emphasis will be placed on needs assessments, planning, and designing inservice or staff development programs to meet institutional needs and individual professional needs.

495-3 to 9 (3,3,3) Workshop in Adult Education. The foci of these workshops are to provide quality educational experiences for students and practitioners in the field of adult and continuing education in three major areas: (a) current issues, (b) improvement of instruction and programs in adult education, and (c) evaluation in adult education.

500-3 Educational Research Methods. Introduction to educational research and the variant methodologies used in the study of institutional settings. Both quantitative approaches will be examined.

501-3 Educational Administration: Tasks and Processes. An examination of the administrative tasks and processes dealing with interaction within the school organization and between the organization and its environment. Components will be viewed for their essential interrelatedness as well as their unique aspects. Emphasis will be placed upon the processes by which change is brought about in dealing with decision making, programming, communication, motivating, controlling, and evaluating.

503-3 Educational Administration: Introduction to Theory. Examination of the various administrative tasks in light of established organizational models and leadership theories. The student will be introduced to a variety of theories, models, and concepts that have pertinence to the field of educational administration. Emphasis will be placed upon the methods of theory construction and the development of a theoretical orientation to the solution of administrative problems. The course draws heavily upon research done in the behavioral sciences.

504-3 An Introduction to Evaluation for Administrators. This course is designed to familiarize prospective and practicing administrators with the areas of personnel, program, and school evaluation. Specific topics include: purposes, constructs, models, instrumentation, procedures, and responsibilities appropriate for school administrators.

505-2 Organization and Administration of the Middle and Junior High School. Focuses on the problems and processes of the administration and organization of the middle school or the junior high school.

507-3 Secondary School Principalship. Deals with problems met specifically by the high school principal. Emphasizes the principal's role in relation to guidance, curriculum, schedule-making, extra-curricular activities, public relations, budgeting of time, etc.

508-2 Student Development Theories. A study of the major theories of human development as applied to college students with implications for the student affairs specialist.

509-3 School-Community Relations and Development. Practical and theoretical aspects of public relations as applied in general and as applied specifically to educational institutions and efforts. Involved are the practical and theoretical considerations of educational institutions assisting in the further development of the community or communities in which they find themselves.

510-3 Higher Education in the United States. An overview of American higher education in historical and sociological perspectives: its development, scope, characteristics, issues, problems, trends, and criticism.

511-3 Organization and Administration of Curriculum. The organization and administration of the curriculum including the ele-

ments and sub-elements comprising a curriculum are the primary focus. Emphasis placed on a rationale, including the socio-cultural and psycho-philosophical factors, political forces and factors, goals, instructional activities, and evaluation. This course has general application to both elementary and secondary curriculum organization.

512-3 Higher Education in Selected Nations. A study of higher education systems and trends outside the United States and of the role of the university in world affairs.

513-3 Organization and Administration in Higher Education. Theories and practices in governance of various types of higher education institutions with attention to problems of formal and informal structures, personnel policies, decision making, institutional self-study, and societal-governmental relations.

514-3 Foundations of Adult Education. This course reviews the socio-cultural, historical, psychological, economic, and philosophical considerations found in the broad field of adult and continuing education and which serves as a foundation for instructional and curriculum development work in the field.

515-3 College Student Development: Operations and Policies. Study of organization, functions, and undergirding principles and policies of student development and the related student personnel services and programs in contemporary colleges and universities including community colleges.

516-3 College Students and College Cultures. Study of the nature of students, the impact of the college on student development, and the nature of the college as a unique social institution. Study of student subcultures and the interaction between students, institutions, and communities.

517-3 The Legal Framework of Education. A study of administrative, judicial, statutory, and constitutional laws which have application in American public schools.

518-3 College Teaching. Emphasis is given to teaching and learning styles, the teaching-learning process, specific methods of teaching, strategies to improve teaching, resources available to the classroom teacher, and methods of evaluating teaching. Other topics will include: models of effective teaching behavior, academic freedom, and due process. Course also open to teaching assistants from other departments.

519-3 Illinois School Law. A study of administrative, judicial, statutory, and constitutional laws which have application in the Illinois public schools.

520-1 to 12 Current Issues in Educational Administration. An examination of current issues that affect the various administrative levels in educational systems. The issue selected receives intensive treatment and review.

521-3 School Facilities. A study of the basic techniques and methods of planning new facilities and evaluating existing facilities. Major emphasis is placed on the preparation of the facility master plan and educational

specifications. Other related topics to be studied include site selection and development, furniture and equipment, maintenance and operation, pupil transportation, and the finance of capital outlay programs.

523-3 Supervision of Instruction. The function of the principal and supervisor in the improvement of instruction and in curriculum development. Activities, methods, and devices for improving the effectiveness of instruction stressed. Prerequisite: 511 or consent of instructor.

524-3 Curriculum Design and Policy. A study of assumptions, materials, methods, and evaluation in the designs of various curricula in colleges and universities, with attention to curriculum resources and policy.

525-3 School Finance Theory. A study of the principles and issues of public school finance. Basic theory, revenue systems, expenditures for public and non-public education, state foundation programs, federal aid programs, and local finance issues are studied in both the theory and contemporary settings. Specific emphasis is given to the Illinois public school financial support program in comparison to alternative formulas and methods as practiced in selected states.

526-3 The Community College. A study of the characteristics and functions of the community or junior college in American higher education. Course content aids the student in developing a general understanding of the philosophy, objectives, organization, and operations of this significant institution.

527-3 School Business Administration. A study of the principles and practices governing management of business affairs of a public school system. Included are such topics as revenues, expenditures, accounting, auditing, reporting, and applications of electronic data processing as a management tool. Practical experience is given in using the Illinois financial accounting manual as well as other managerial procedures. Detailed study is made of the role of the school business administrator in the local school district.

528-3 Finance in Higher Education. A study of financing higher education in American society and related economic aspects. Emphasis is given to sources of funds and management of financing in colleges and universities including budgeting, control, accountability, and current trends.

529-3 Supervision of Personnel: Problems. Supervision of personnel problems and tasks as they relate to educational organization and goals. Emphasis is given to an analysis of supervision of personnel problems arising from changing developments in organization.

530-3 Historical Research in Education. Seminar designed to explore the literature, methods, and possibilities of historical research in education.

531-3 The School Superintendent and Board of Education. Focuses on superintendent-school board relationships. It investigates the administrative team's role and functions as they relate to leadership in educational policy making.

533-3 Elementary School Principalship. A critical study of research and writing with implications for the elementary principalship. Designed to meet many of the particular needs of persons interested in becoming elementary principals. Other persons such as teachers, superintendents, and staff personnel will gain insight into problems and responsibilities of the elementary principal's role.

535-1 to 14 (a-h-1 to 3 each, s-1 to 6) Higher Education Seminar I. A series of seminars for specialized study of areas of administrative practice and policy. (a) student personnel group work, (b) law and higher education, (c) student financial assistance, (d) admissions and records, (e) academic advisement, (f) academic and faculty administration, (g) current issues in student affairs, (h) housing, (j) non-traditional students/non-traditional delivery, (k) women and higher education, (m) student center, (n) supervisory management in higher education, and (s) selected topic.

536-3 Organization and Administration of Adult and Continuing Education Programs. Review of methods and procedures for working with various types of adult programs and populations for administering adult curricula programs and staff, for using area and state social services, and for program funding are the primary emphases of this course. Prerequisite: admission to master's degree program.

537-3 The Adult Learner. The focus of study will be adult learners, their motivations, learning styles, needs, goals, life stages, life cycles, and developmental patterns. Implications for adult learning will be sought.

539-3 Evaluation and Accreditation in Schools. Developed to familiarize pre- and in-service teachers and administrators with the purpose, processes, roles, and instrumentation utilized by regional and state accreditation agencies. It is designed to prepare professional educators to implement both evaluator-evaluated roles in the systematic process of accreditation and educational improvement at the local school level. It may be delivered on campus through simulated activities or on site in conjunction with real school evaluations. Prerequisite: consent of instructor.

540-3 Classics in Education. Primary attention will be given to Plato's *Republic*, Castiglione's *Courtier*, Rousseau's *Emile*, and Dewey's *Experience and Education*. Other authors such as Aristotle, Quintilian, Francis Bacon, Montaigne, John Bunyan, Benjamin Franklin, A. S. Neill, Karl Marx, and B. F. Skinner will receive additional consideration.

541-3 Personnel Evaluation. Directed toward the development of personnel evaluation systems for educational institutions. It will encompass both certificated and non-certificated personnel and examine a variety of methods/means approaches. The legal ramifications of evaluation and the use of evaluative data will be discussed in light of current federal and state laws and court decisions with respect to teacher tenure, due process, and other principles.

543-3 Professional Negotiations. An investigation of the theory and practice of professional negotiations. Emphasis will be placed on understanding the roles of adversarial negotiations. Use will be made of cases and simulations.

545-1 to 16 (a-g-1 to 3 each, h-1 to 8) Higher Education Seminar II. A series of seminars for scholarly inquiry into significant aspects of higher education. (a) Community college administration, (b) federal government and higher education, (c) institutional research, (d) current issues in higher education, (e) problems in central administration, (f) business and fiscal affairs, (g) history of higher education, (h) selected topic.

549-3 Naturalistic Research Methodology. An advanced seminar dealing with the foundations, design, application, and implementation of the naturalistic or qualitative method of conducting research. The student is expected to develop a dissertation prospectus or an original research report using the naturalistic method of inquiry. Prerequisite: doctoral standing or consent of instructor.

550-1 to 4 Higher Education Seminar III. An advanced seminar for doctoral students in higher education. Two hours required for all doctoral students. Prerequisite: doctoral students only.

551-3 Politics of Education. An examination of the political setting of educational administration selected leadership practices, and a general study of leadership theory. This course is open to students in approved sixth-year and doctoral programs only. In addition to educational leadership related to the politics of education, emphasis is given to innovative and contemporary practices of school administration.

552-3 Seminar in Comparative/International Education. The formulation of a conceptual framework necessary to engage in analytical studies of educational systems here and abroad. This frame of reference will enable the professional educator or social scientist to analyze educational provisions that foster or retard social progress and change.

553-3 Planning Processes and Policy Development. Surveys issues involved with accountability in education. Explores in some detail various planning models. Examines concepts and strategies in public policy development. Open to approved sixth year specialist and doctoral students.

554-3 Seminar in Philosophy of Education. An interpretation of modern educational problems and trends in the light of basic philosophical viewpoints. Excerpts from the leading philosophical writings are used. Prerequisite: 454 or consent of instructor.

555-3 Advanced Educational Administration Theory. An advanced seminar devoted to the study of classical and modern theories concerning the administration of complex organizations. Particular emphasis is placed on organizations as social units that pursue specific goals which they are structured to serve. The major areas of study are or-

ganizational goals, organizational structure, and organizations and their social environment. Prerequisite: 503 or equivalent.

556-3 Seminar in History of European Education. A survey and interpretation of education in Europe from the Greek era to the present. Stresses the relationship of European to American education.

558-3 Advanced Seminar in Comparative/International Education. A cross-examination of specific educational cases based on an analysis of natural, religious, and secular factors that affect education and culture on the whole. This followup seminar of 552 exposes professional educators to comparative methodology and prepares them for specific case studies or policy studies in education. Prerequisite: 552 or consent of instructor.

559-3 Interdisciplinary Seminar in Educational Administration I. Seminar designed to assist specialist and doctoral students in understanding cognitive disciplines which relate directly to administrative competence. It is part of a two-part sequence which treats topics in political science, sociology, and communicative skills.

560-3 Education and Culture. A study of the concept of culture and its relation to the process of education.

561-3 Interdisciplinary Seminar in Educational Administration II. Seminar designed to assist specialist and doctoral students in understanding cognitive disciplines that relate to administrative competence. It covers areas in economics, anthropology, history, philosophy, etc.

565-3 Continuing Education and Extension Services. An in-depth examination of extension services and continuing education programs and delivery systems associated with post-secondary institutions, industrial and commercial organizations, professional associations, and governmental agencies will be made. Course emphasis is given to such learning programs as conferences, credit courses, non-credit courses, learning referral services, non-traditional degree programs, and social service activities. Prerequisite: consent of instructor.

575-3 Seminar in Adult and Continuing Education. A content and research course focusing on selected topics in the area of adult and continuing education. Topics vary depending upon needs of students and competencies of staff. Prerequisite: consent of instructor.

588-3 to 6 General Graduate Seminar. Selected topics or problems in cultural foundations of education. Prerequisite: advanced standing and consent of instructor.

589-1 to 4 Higher Education Research Seminar. Limited to doctoral students formulating and preparing research designs for investigation and implementation. Graded S/U only. Prerequisite: consent of instructor.

590-1 to 6 Readings. Advanced reading in one of the following areas. (a) Administration, (b) buildings, (c) supervision of curriculum, (d) finance, (e) school law, (f) supervision, (g) comparative education, (h) history of educa-

tion, (i) philosophy of education, (j) sociology of education, (k) adult and community education, (l) higher education. Prerequisite: consent of instructor. Graded *S/U* only.

591-1 to 6 Individual Study. Individual inquiry into selected problems or special topics in higher education under supervision of a graduate faculty member. Graded *S/U* only. Prerequisite: consent of instructor.

593-1 to 3 per topic Individual Research. Maximum of six hours toward master's degree. Selection, investigation, and writing of a research assignment under the personal supervision of a graduate faculty member in one of the following areas. (a) Administration, (b) buildings, (c) supervision of curriculum, (d) finance, (e) school law, (f) supervision, (g) comparative education, (h) history of education, (i) philosophy of education, (j) sociology of education, (k) adult and community education, (l) higher education. Prerequisite: consent of instructor. Graded *S/U* only.

595-1 to 8 Internships. Theory and practice in educational administration or higher education with a work experience in an educational setting.

596-1 to 6 Independent Investigation. Field study required of each student working for the sixth year specialist degree. Graded *S/U* only.

597-1 to 6 Superintendency Internship. An internship conducted in a central administrative setting for fulfillment of the state of Illinois' Level III Administrative Certificate. Consent of student's adviser is required.

599-1 to 6 Thesis.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Educational Psychology

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

402-3 Basic Statistics. A master's level terminal statistics course. Emphasis on descriptive statistics and graphical representation of data. Includes a brief introduction to hypothesis testing procedures.

412-3 Human Behavior and Mental Health. A study of the principles of human needs, mechanisms of adjustment, and factors and conditions in life that tend to affect mental health. Prerequisite: junior or senior standing.

418-3 Psychology of the Classroom. Intended to develop interpersonal skills such as values clarification, empathy, and listening. Strategies for the resolution of conflicts and reasons for students demonstrating disruptive behavior will be discussed. Role-playing, group processes, concepts and activities in behavior modification, and activities related to concepts of discipline will be examined. Content should be suited to parents, teachers, and other professionals.

422-3 Introduction to Individual and Group Assessment. The student will be introduced to the basic testing process and the problems related to individual group assessment and will be expected to choose a project for study and investigation. The project must be related in some way to the role and function of the counselor in different settings. The various types of assessment instruments and the manner in which the data derived therefrom can be employed in consultation.

442-3 Introduction to Counseling. The following topics will be covered: purposes of counseling; counselor roles in various settings; approaches to counseling; counseling activities; and application of the above.

481-1 to 12 Seminar. Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of premarital, marital, divorce, family, and family crisis counseling. Counseling individuals singly, in family units, and in groups. Prerequisite: consent of instructor.

491-1 to 6 Special Research Problems—Individual Study. For majors. Formulating, investigating, and reporting on a problem in the area of guidance. Prerequisite: advanced standing and consent of department.

493-3 Counseling Skill Development. Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.

494A-3 School Counseling Practicum. A combined seminar, laboratory, and field experience representing the central focus of the program in school counseling. Enables the student to practice the role of the counselor under close supervision. Prerequisite: 537 and 3 additional hours from substantive course work in the counseling program.

494B-3 Counseling Practicum. Practice of counseling skills with different populations in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Prerequisite: 538 and 3 additional hours from substantive course work in the counseling program.

494C-3 Career Counseling Practicum. Supervised experience in handling career development experiences at elementary, secondary, or college levels. Application of theoretical models to program development is stressed, including presentation of relevant lessons, handling of group guidance activities,

and conducting individual career development counseling sessions. Intern experience in public school or college settings equal to one day per week is required. Prerequisite: 542 and 3 additional hours from substantive course work in the guidance and counseling program.

494D-3 to 6 (3,3) Practicum in School Psychology. Observation and participation in case conferences related to the development of psycho-educational assessment and planning, including teacher and parent consultation, field observations, and psychometric applications. Prerequisite: consent of instructor.

506-4 Inferential Statistics. Covers basic descriptive techniques such as central tendency, measures of variability and graphical presentation of data. In addition, hypothesis testing, analysis of variance, nonparametrics, and simple linear prediction will be covered.

507-4 Multiple Regression. The general linear model is presented which allows for hypothesis testing including correlational analysis, analysis of variance, and analysis of covariance. Non-linear relationships are presented. Emphasis is placed on testing the stated research hypotheses. Prerequisite: 506.

508-4 Experimental Design in Educational Research. Strategies of designing research studies and the analysis of data from studies using linear models are examined. Emphasis will be placed on internal and external validity and factors that affect power in variance designs including completely randomized designs, Latin square, repeated measures, and analysis of covariance with each of the above designs. Prerequisite: 506 or equivalent.

511-3 Instructional Psychology. Critical review of empirical, methodological, and theoretical developments in the experimental study of instructional variables as related to student behavior. Prerequisite: None. PSYC 407 or equivalent is recommended.

512-3 Affective and Cognitive Behaviors at the School Level. Physical, mental, and social growth, affective and cognitive theories, moral and political development, acquisition and utility of language, motivation, and memory. The course is designed to enable a teacher to deal effectively with the affective and cognitive behaviors of school adults and children of differing abilities.

513-3 Psychological Trends in Education. Study of literature from B. F. Skinner, Carl Rogers, Erik Erickson, Abraham Maslow, John Dewey, Laurence Cremin, Jerome Bruner, Haim Ginott, Clark Moustakas, A. S. Neill, John Holt, Charles Silberman, Thomas Gordon, Jean Piaget, Jerome Kagan, Sigmund Freud, etc., to provide the student with knowledge of contemporary psychological trends in education.

515-3 The Psychological Aspects of Instructional Design. Survey of applications of psychology to the design, delivery, and evaluation of instruction for cognitive and effective learning among individuals of differing abilities, including the gifted. Prerequisite: 511.

521-3 Analysis of Classroom Behavior—Consultative Practices for School Per-

sonnel. Trains school pupil personnel to serve as a consultant to classroom teachers regarding prevention and modification of undesirable classroom behaviors.

525-3 Cross Cultural Factors Affecting Counseling. Designed to cover special problems of different cultural groups in the counseling process. The influence of culture upon values, beliefs, interests, and feelings will be explored as they relate to the rights of the client.

530-3 Standardized Testing: Use and Interpretation. Principles and procedures for determining appropriate instructional uses of tests and how to apply tests in the process of helping individual students. Emphasis will be on necessary principles of understanding standardized tests, interpretation of test results to students, teachers, and parents, and developing school testing programs. In addition, methods for appraising guidance programs will be covered. Prerequisite: 422.

531-3 Principles of Measurement. Intended to provide theoretical principles of measurement which are applicable to both teaching and research. Part of the course will be devoted to current issues in measurement and to practical applications to these theoretical principles. Prerequisite: 506.

532-3 Theories of Intelligence. Nature and assessment of intellectual behavior with emphasis on the historical, theoretical, and developmental aspects of intelligence. Special attention is given to test standardization and interpretation of the Stanford-Binet and Wechsler Scales.

533-4 Individual Measurement and Practice. Psycho-educational assessment of individual mental factors with attentions to all aspects of administration, scoring, interpreting, and utilizing the results of the Stanford-Binet Intelligence Scale, Wechsler Intelligence Scales for children and the Wechsler Adult Intelligence Scales. Additional charges not to exceed \$22 may be assessed for test kit rentals. Prerequisite: 494d, 532.

537-3 Counseling Children: Theory, Techniques, and Practice. The foundations and techniques of individual and group counseling with particular emphasis on theories, operational approaches, tools, and related procedures. Prerequisite: 493 or concurrent enrollment.

538-3 Adolescent and Adult Counseling: Theory, Techniques, and Practice. In this course, students will: understand the nature of counseling; be familiar with theoretical models of interpersonal relationships; develop effective communication skills; and be acquainted with strategies used to modify attitudes and behaviors. Prerequisite: 493 or concurrent enrollment.

540-3 Issues and Trends in Counseling. Students will examine current problems, issues, and trends with an emphasis on strategies for solving the problems; clarifying the issues and placing them in proper perspective; examining possible ramification of the trends.

542-3 Career Development Procedures and Practices. For pupil personnel workers,

teachers, and administrators to give an orientation to theoretical, economic, and informational aspects of career guidance and to provide experience with using career information in counseling and decision making. Obtaining occupational and information materials for use in guidance and teaching.

543-3 Group Theory and Practice. Focuses on the theory, functions, and techniques of group procedures appropriately applied to decision making, problem solving, and resolution of conflict. Major emphasis is given to the dynamics of group behavior, the social-psychological interaction of small groups, and their applications to group counseling. Dual emphasis is placed upon interpersonal self-understanding and the familiarity with group procedures. Prerequisite: 493.

546-4 Personality Assessment. Assessment of individual interest patterns, motivations, and perceptual systems with attention to theories and assumptions of selected projective and objective diagnostic tests. Focuses on student related problems in elementary and secondary education. Additional charges not to exceed \$22 may be assessed for test kit rentals. Prerequisite: 533.

547-3 Implementation of Counseling Services. Designed to furnish the prospective school counselor with knowledge and competency in planning and implementing a complete and integrated pupil personnel program for public schools. During the semester attention will be given to the parameters of such an integrated program, i.e., the function of a philosophical base; the principles which emerge from the philosophical position; the planning strategies best suited to implementing such a program; the actual recommendations for personnel, facilities, and materials; evaluation techniques and strategies; methods of reporting progress to students, school personnel, and the community, and an estimate of the per pupil cost. Prerequisite: experience in school counseling work, advanced standing in the counselor education program or equivalency to either of the above.

551-3 The Supervision of Practicum. Doctoral students will: become familiar with models of counseling supervision; practice supervision with master's students; and be acquainted with the research in the counselor training and supervision. Individual and group supervision are provided. Tape recording of supervision sessions is required.

555-3 to 6 (3,3) Seminar in School Psychology. Major professional issues and responsibilities; the school as a social system; ethical considerations; school related agencies and facilities; and professional organizations. Assists the student to prepare the project proposal required for the specialists' degree. Prerequisite: consent of instructor.

562-6 (3,3) Human Development in Education. Theories and research evidence regarding child development and behavior are investigated. These considerations focus upon implications for research and educational practices. (a) Childhood. (b) Adolescent.

567-2 to 9 (2 to 6 per semester) Topical Seminar in Educational Psychology.

Contemporary topics and problems in the area of educational psychology. Conceptual and empirical activities. Prerequisite: consent of instructor.

568-1 to 12 (1 to 6 per semester) Topical Seminar in Counseling. Contemporary topics and problems in the area of counseling and guidance are covered. Conceptual experiential and empirical activities are stressed. Each course can be offered for one hour or more depending on current validity at the time offered. A student may also retake a course as the issues change in that area.

570-3 Humanistic and Behavioral Theories in Education. Doctoral students will critically examine major humanistic and behavioral systems; evaluate the research dealing with the systems; and be able to apply the systems to educational problems.

580 Doctoral Seminar in Educational Measurement and Statistics. A series of advanced seminars on statistics and measurement. Sections a through h may be taken only once each. Section i may be repeated as topics vary. (a) -3 Advanced regression analysis. (b) -3 Factor analysis. (c) -3 Multivariate methods. (d) -3 Nonparametric methods. (e) -2 Evaluation methods. (f) -3 Experimental design. (g) -3 Advanced measurement theory. (h) -3 Computer applications. (i) -2 to 6 per semester. Selected topics.

591-3 to 6 Internship in Counseling. Master and specialist level internship of 300 clock hours in counseling. The student will engage in a variety of services including individual, group, and consultation in an appropriate setting. Both on-campus and off-campus supervision is required. Prerequisite: 494a or b.

592-1 to 8 (1 to 6 per semester) Independent Study and Investigation. For advanced graduate students. Topics of interest to the individual student are studied under supervision of a department staff member. Prerequisite: consent of department.

593-1 to 4 Individual Research. For doctoral students in educational psychology. Formulating, investigating, and reporting of research problems in the area of guidance and educational psychology. Prerequisite: consent of department.

594-1 to 6 Advanced Practicum. Primarily for advanced master's or doctoral students who want to continue developing their counseling skills. Counseling settings are individually arranged, however, they typically follow the 494 practicum experience.

595-4 to 8 (4,4) Internship in the Psychology of Teaching. Full- or half-time teaching practice in the management of classroom behavior, and the design, delivery, and evaluation of instruction. Interns will be supervised by University staff. Prerequisite: 512, 513, 518, 540, and the consent of department.

596-15 (5 per semester) Internship in School Psychology. The purpose of the internship is to provide an opportunity to integrate the broad range of skills requisite to a position in school psychology. The internship provides the student with a full-year of full-time supervised experience in a pre-approved

setting. Enrollment assumes completion of a master's degree in educational psychology or a related area and all course requirements for the specialist's degree in educational psychology. Graded *S/U* only.

597-12 (6,6) Doctoral Internship in Counseling. Doctoral or post-doctoral level students will be placed in an appropriate, full-time setting to engage in a variety of counseling services. On-campus and off-campus supervision will be provided by doctorate level counselors. Prerequisite: 591 and 594.

599-1 to 6 Thesis. Prerequisite: consent of department.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Electrical Engineering

(See Engineering.)

Engineering

400-1 Engineering Professionalism and Ethics. The role of the engineer as a professional in society and in the corporate structure. Engineering registration. The basis and function of engineering codes of ethics. Major ethical/philosophical value systems in our country. Ethics applied to specific engineering case studies. Not for graduate credit. Prerequisite: senior standing in engineering.

455-3 Engineering Geology. (See Geology 455.)

501-3 Advanced Engineering Analysis I. Series solution of ordinary differential equations, special functions of engineering analysis, vector analysis, partial differential equations of engineering analysis, the calculus of variations. Prerequisite: MATH 305, 450, or consent of instructor.

502-3 Advanced Engineering Analysis II. Origins of eigenvalue problems, operators on inner product spaces, spectral theorem with applications, Fourier series, two-point boundary value problems, special functions of engineering analysis, calculus of Fourier transforms with applications, generalized functions, discrete transforms, other related transforms. Prerequisite: 501 or consent of instructor.

520-3 Systems Theory. Analysis of continuous and discrete systems, equations of state for systems, z-transform analysis, concepts of

stability, controllability, and observability. Prerequisite: MATH 450, or equivalent.

530-3 Engineering Data-Acquisition: Theory and Practice. Theory of data-acquisition and measurement systems. Methods of measurement of electrical, mechanical, fluidic, and thermal properties. Criteria for selection of instruments and components of management systems.

540-3 Design of Engineering Experiments. Planning of experiments for laboratory and field studies, similitude and modeling, statistical design of experiments, data analysis, generalization of research findings. Prerequisite: MATH 450, 483, or consent of instructor.

545-3 Advanced Numerical Methods in Engineering. Engineering applications of linear and nonlinear equations, unconstrained optimization, linear and nonlinear programming, numerical solutions of ordinary and partial differential equations, eigenvalue problems. Prerequisite: MATH 305 and consent of instructor.

550-3 to 9 (Maximum of 3 per topic) Advanced Topics in Mechanics. Topics will be offered in fluid mechanics, solid mechanics, structures, or materials. Advanced topics in fluid mechanics include: (a) turbulence modeling, (b) fluid transients, (c) flow through porous media, and (d) rheology. Advanced topics in solid mechanics include: (e) theory and analysis of shells, (f) theory of elasticity, (g) viscoelasticity. Advanced topics in structure include: (h) structural dynamics, (i) nonlinear structural analysis. Advanced topics in materials include: (j) fracture mechanics and dislocation theory (k) advanced rock mechanics, and (l) numerical methods in geomechanics. Prerequisite: consent of instructor.

551-3 to 9 (Maximum of 3 per topic) Advanced Topics in Fossil Energy. Studies of fossil energy extraction and conversion process with emphasis on scientific principles, analytical methods, and recent technological developments. Topics include: (a) physical coal processing, (b) fine coal beneficiation, (c) coal chemistry and characterization, (d) environmental issues of air and hazardous waste, (e) advanced mining systems, (f) network theory in mine ventilation, (g) operations research applications to mining, (h) solid carbon and coal derived materials. Prerequisite: consent of instructor.

580-1 to 2 Seminar. Study and oral presentation of selected problems in advanced engineering and science. Prerequisite: enrollment in the Ph.D. in engineering science program and consent of instructor.

590-1 to 6 (Maximum of 3 per semester) Special Investigations in Engineering Science. Investigation of individual advanced projects and problems selected by student or instructor. Prerequisite: admission into Ph.D. program in engineering science.

600-1 to 36 (1 to 16 per semester) Doctoral Dissertation. Dissertation research. Hours and credit to be arranged by director of graduate studies. Graded *S/U* only. Prerequisite:

site: admission to Ph.D. in engineering science program.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Civil Engineering and Mechanics

Graduate work in the Department of Civil Engineering and Mechanics is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

CIVIL ENGINEERING

409-3 Hydrology and Hydraulic Engineering Design. Study of the hydrologic cycle. Streamflow analysis. Unit hydrograph. Matrix methods; synthetic methods. Frequency analysis; multivariate distributions. Hydrologic and hydraulic routings. Groundwater hydrology. Application of hydrology to the design of various hydraulic structures; small dams, spillways, drainage systems. Prerequisite: ENGR 222, 313 or equivalent or consent of instructor.

413-3 Fluid Systems Design. Two to three week projects involving the identification, modeling, analysis, and design of fluid-engineering systems. Prerequisite: ENGR 222, 313.

414-3 Intermediate Fluid Mechanics. A development of the governing equations of motion including the continuity, Navier-Stokes, and energy equations. Application of these equations to potential, viscous, and compressible flows. Isentropic flow of a perfect gas. Normal and oblique shock waves. Prandtl-Meyer flow. Prerequisite: ENGR 313 or equivalent.

415-3 Wastewater Treatment Design. A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards. Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes; reuse of wastewater. Concurrent enrollment in 417 is recommended. Prerequisite: 314, ENGR 313.

417-1 Water Quality Laboratory. Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Laboratory supply fee \$15. Prerequisite: 314.

419-3 Water Supply and Treatment. Wa-

ter quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems, and treatments). Prerequisite: 314 and ENGR 313.

421-3 Foundation Design. Application of soil mechanics to the design of the foundations of structures; bearing capacity and settlement analysis; design of shallow footings; stability of earth slopes; design of retaining walls; design of pile foundations; coffer dams. Prerequisite: 321.

427-3 Physical and Chemical Treatment in Environmental Engineering. Physical and chemical treatment as applied to water and wastewater. Topics include coagulation, flocculation, sedimentation, absorption, ion exchange, and oxidation in dilute aqueous systems. Design of systems. Laboratory. Prerequisite: 314 and 315.

440-3 Statically Indeterminate Structures. Analysis of trusses, beams, and frames. Approximate methods. Method of consistent deformations. Three-moment theorem. Slope deflection. Moment distribution. Column analogy. Plastic analysis. Matrix methods. Prerequisite: 340.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Design project and report required. Prerequisite: 340.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 340.

445-3 Reinforced Masonry Design. Materials. Loads. Walls. Columns and pilasters. Beams. Lateral-load resisting elements. Connections and joints. High-rise structures. Environmental features. Quality control. Design project and report required. Prerequisite: 444.

446-3 Prestressed Concrete Design. Fundamental concepts of analysis and design. Materials. Flexure. Shear and torsion. Deflections. Prestress losses. Composite beams. Indeterminate structures. Slabs. Bridges. Prerequisite: 444.

447-3 Intermediate Mechanics of Materials. Torsion of noncircular shafts. Unsymmetric bending problems. The shear center. Yield theories and plastic material behavior. Fatigue and brittle fracture. Energy methods in solid mechanics. Design of members to resist yielding and fracture. Prerequisite: ENGR 222 and 311.

448-3 Experimental Stress Analysis. Development of theoretical equations of stress and strain and their transformations. Equations of equilibrium; compatibility equations; stress functions; applications of these equations in stress measurements; study of optical, mechanical, and electrical strain gauges; brittle coating; Moire' technique; and two-dimensional photoelasticity. Laboratory supply fee \$10. Prerequisite: ENGR 311.

449-3 Intermediate Dynamics. Kinematics and kinetics of plane and three-dimension-

al motion. Principles of work and energy applied to the motion of rigid bodies. Principles of impulse-momentum applied to variable mass and rigid body systems. Space mechanics. Prerequisite: ENGR 222, 260, MATH 305.

451-3 Introduction to Finite Elements in Engineering Applications. (Same as Engineering Mechanics 451.) An introduction to finite element techniques and computer methods in finite element applications. Theory and structure of algorithms for one-dimensional and multi-dimensional problems. Introduction to boundary element methods. Applications in solid mechanics, structural analysis, groundwater flow, and heat transfer. Prerequisite: EM 351 or equivalent.

456-3 Introduction to Composite Materials. Different types of composite materials, micro and macro mechanics of lamina, lamination theory, strength and failure theories, moisture and temperature effects, interlaminar stresses, design of composite laminates involving selection of materials and stacking sequence. Prerequisite: ENGR 222, 311, and 312.

458-3 Photoelasticity. Optics related to photoelasticity; theory of photoelasticity; photoelastic materials; analysis techniques; two-dimensional and three-dimensional photoelasticity; birefringent coatings; scattered light photoelasticity; applications of photoelastic methods. Laboratory. Prerequisite: ENGR 311.

462-3 Matrix Methods of Structural Analysis. Flexibility method and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 340 and ENGR 222.

470-3 Engineering Analysis. Methods of solution for basic ordinary differential equations with applications to engineering systems. Basic methods of solution for partial differential equations with emphasis on applications of Laplace, Poisson, and heat equations to engineering problems. Basic vector field theory, transformation theorems. Simulation techniques applied to engineering systems. Prerequisite: MATH 305 or equivalent.

480-1 Civil Engineering Seminar. Civil engineering as a profession. Basic concepts of professionalism. Engineers' inherent responsibilities to society, client or employer, and other members of the profession. The role of ethics in engineering. Prerequisite: senior standing.

483-3 Senior Design Project in Civil Engineering. A comprehensive design course emphasizing preliminary and overall design of civil engineering projects using a team approach. Students will define and design the various components and subsystems of the project, define subsystem interface requirements, integrate the subsystems into the final design, and document the whole design in the form of a final report and an oral presentation. Laboratory. Not for graduate credit. Prerequisite: 321, 413, 442, 444, and senior standing in civil engineering.

484-3 Engineering Design. Provides the senior engineering student with a design experience involving two or more of the follow-

ing disciplines: solid mechanics, fluid mechanics, dynamics/vibrations, and materials. The course is directed toward the development of attitudes and approaches to the design process rather than specific design techniques. Students working in small teams will select a problem, define and design the system components into a final design, and document the design effort. Not for graduate credit. Prerequisite: graduating senior standing.

492-1 to 4 Special Problems in Civil Engineering. Selected engineering topics or problems in (a) structural engineering, (b) hydraulic engineering, (c) environmental engineering, (d) applied mechanics, and (e) geotechnical engineering. Four hours maximum course credit. Prerequisite: consent of instructor.

493-1 to 4 Special Problems in Engineering. Selected engineering topics and problems in (a) stress analysis, (b) fluid flow analysis, (c) structural engineering, (d) computational mechanics, (e) materials engineering, and (f) dynamics. Four hours maximum course credit. Not for graduate credit. Prerequisite: consent of instructor.

510-3 Hazardous Waste Engineering. Analysis of hazardous waste generation, storage, shipping, treatment, and disposal. Source reduction methods. Government regulations. Remedial action. Prerequisites: 427 and ENGR 300.

512-3 Theory of Elasticity. (Same as Engineering Mechanics 512.) Stress and strain and equations of elasticity, equilibrium equations; compatibility equations; stress functions; applications of elasticity in solving engineering problems in two and three dimensions. Prerequisite: MATH 305 or consent of instructor.

515-3 Transient Hydraulic Transport. (Same as Engineering Mechanics 515.) Unsteady motions in single and multiphase, incompressible, and compressible flow in pipes and incompressible flow in open channel systems. Numerical analysis and control of waterhammer, density waves, and system resonance. Method of characteristics and implicit methods. Wave structure interaction. Free surface transients, the kinematic wave. Prerequisite: EM 414 or consent of instructor.

516-3 Water Resources Management. Water quality factors and control methods. Technical, economic, social, and legal aspects concerned with implementation of various engineered systems for water quality management. Case studies. Prerequisite: 415.

517-3 Industrial Waste Treatment. Theories and methods of treating industrial wastes. Case studies of major industrial waste problems and their solutions. Prerequisite: 415.

518-3 Advanced Biological Treatment Processes. The biochemical and microbial aspects of converting substrate to bacterial cell mass or products and its use in various phases of industry (both fermentation and wastewater treatment). Design of activated sludge and trickling filter plants from lab data obtained on explicit wastes from both industry and municipalities. Prerequisite: 415.

521-3 Aqueous System Analysis. Applied

environmental chemistry as it relates to water and wastewater treatment systems. Topics include acid-base chemistry, pC-pH diagrams, coordination chemistry, precipitation, dissolution, and computer solutions. Prerequisite: 314, 415, 417, or consent of instructor.

522-3 Unit Operations in Environmental Engineering. Physical and chemical processes as applied to water and wastewater treatment. Topics include coagulation, flocculation, sedimentation, adsorption, ion exchange, and oxidation in dilute aqueous systems. Prerequisite: 314, 415, or consent of instructor.

531-3 Advanced Soil Mechanics. Problems in geotechnical engineering, effective stress principle, seepage, dewatering, consolidation with vertical and radial drainage, shear strength, stability of slopes, constitutive relationships, and frozen ground engineering. Prerequisite: 321 or consent of instructor.

541-3 Advanced Foundation Engineering. Objectives of foundation engineering, case histories, design criteria, shallow foundations, deep foundations, piles under lateral loads, uplift loads, and soil anchors. Prerequisite: 531 or consent of instructor.

544-3 Advanced Design of Reinforced Concrete. Deep beams, shear friction. Slab, beam, girder systems. Monolithic joints. Retaining walls. Deflections. Length effects on columns. Two-way floor systems. Yield line theory. Torsion. Seismic design. Prerequisite: 444.

545-3 Inelastic Metal Structures. Rigid-plastic and elastic-plastic behavior, analysis, and design of metal structures including slender members and skeletal frames. Design of multi-story buildings and bridges. Prerequisite: 442 or consent of instructor.

551-3 Soil Dynamics. Earthquake induced damage to soil and soil structures, problems due to dynamic loading of soils, wave propagation, dynamic soil properties and their determination, liquefaction of soils, design of foundation in seismic areas. Prerequisite: 441 and 531.

561-3 Structural Dynamics. (Same as Engineering Mechanics 561.) Analysis of the dynamic response of multidegree-of-freedom framed structures. Structural idealizations. Matrix formulation. Lagrange's equations. Response calculation by modesuperposition and direct integration methods. Analysis for earthquakes. Prerequisite: 340, EM 441, or consent of instructor.

580-1 to 4 Seminar. Collective and individual study of selected issues and problems relating to various engineering areas. Registration for 1 hour credit, S or U grade will be used. Registration for more than 1 hour credit, letter grades will be used. Prerequisite: graduate standing.

592-1 to 5 Special Investigations in Engineering. Advanced engineering topics and/or problems in (a) structural engineering, (b) hydraulic engineering, (c) environmental engineering, and (d) applied mechanics. Pre-

requisite: graduate standing and consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

ENGINEERING MECHANICS

The following courses are offered by the Department of Civil Engineering and Mechanics.

510-3 Computational Fluid Dynamics. Advanced topics in the computer solution of complex 2-D and 3-D fluid flows. Consideration of various finite difference formulations in different coordinate systems. Upwind differencing, stability analysis, explicit methods, implicit methods, boundary condition formulation. Introduction to finite element approach. Prerequisite: 414 and 451 or consent of instructor.

512-3 Theory of Elasticity. (Same as Civil Engineering 512.) Stress and strain and equations of elasticity; equilibrium equations; compatibility equations; stress functions; application of elasticity in solving engineering problem in two and three dimensions. Prerequisite: MATH 305 or consent of instructor.

513-3 Mechanics of Viscous Fluids. Theory of laminar viscous flows using the continuum approach. The stress and rate-of-deformation tensors; exact solutions including slow motion and problems of the laminar boundary type. Introduction to hydrodynamic stability. Prerequisite: 414 or consent of instructor.

514-3 Mechanics of Inviscid Fluids. A study of stream functions, the velocity potential, Euler equations, Bernoulli equations, various solutions to Laplace's equation, added masses, Taylor theorem, Blasius and Legally theorems, two-dimensional irrotational flows, Cauchy-Riemann equations, conformal mapping, vortex flow, thin airfoil theory, and free-streamline flows. Prerequisite: 414 or consent of instructor.

515-3 Transient Hydraulic Transport. (Same as Civil Engineering 515.) Unsteady motions in single and multiphase, incompressible, and compressible flow in pipes and incompressible flow in open channel systems. Numerical analysis and control of waterhammer, density waves, and system resonance. Method of characteristics and implicit methods. Wave structure interaction. Free surface transients, the kinematic wave. Prerequisite: 414 or consent of instructor.

518-3 Introduction to Turbulence. Application of the basic equations of motion to turbulent flow problems. Reynolds equations; turbulence energy equations; description of

the structure of turbulence; correlation and spectrum functions, macro, micro, and time scales; phenomenological theories; free shear and wall shear flows. Hot-wire anemometry; Laser Doppler anemometry. Prerequisite: 414 or equivalent or consent of instructor.

520-3 Finite Element Analysis. Theoretical basis for finite elements in engineering mechanics. Derivation of element equations by displacement and variational methods for use in the solution of two and three-dimensional stress problems; plate bending and shell problems; introduction to dynamic and nonlinear analysis, applications to fluid mechanics. Prerequisite: 462 or consent of instructor.

540-2 Elastic Stability. Bending of beam columns under simultaneous action of axial and lateral loads; buckling of compressed bars, frames, rings, and arches; lateral buckling of beams; torsion of I beams; buckling of thin plates. Prerequisite: MATH 305 or 407 or consent of instructor.

542-2 Theory of Plates. Analysis of bending and vibration of plates of various shapes; energy method; complex variables methods, linear and non-linear behavior; theory of bending of anisotropic and non-homogeneous plates. Prerequisite: MATH 305 or 407 or consent of instructor.

550-3 Advanced Compressible Fluid Flow. Multidimensional compressible flow. Linearized equations of motion. Method of characteristics. Rarified gas dynamics. Hypersonic flow. Transonic flow. Prerequisite: 414 or equivalent.

561-3 Structural Dynamics. (Same as Civil Engineering 561.) Analysis of the dynamic response of multidegree-of-freedom framed structures. Structural idealization. Matrix formulation. Lagrange's equations. Response calculation by mode-superposition and direct integration methods. Analysis for earthquakes. Prerequisite: 441, CE 340, or consent of instructor.

580-1 to 4 Seminar. Collective and individual study of selected issues and problems relating to various engineering areas. Registration for 1 hour credit, S or U grade will be used. Registration for more than 1 hour credit, letter grades will be used. Prerequisite: graduate standing.

592-1 to 4 Special Investigations in Engineering. Advanced engineering topics and problems in (a) stress analysis, (b) fluid flow analysis, (c) structural engineering, (d) computational mechanics, (e) materials engineering, and (f) dynamics. Prerequisite: graduate standing and consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Mechanical Engineering and Energy Processes

Graduate work in the Department of Mechanical Engineering and Energy Processes is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

MECHANICAL ENGINEERING

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis of turbo-machinery. Prerequisite: ENGR 300.

401-1 Thermal Measurements Laboratory. Study of the basic physical measurements used in the thermal sciences. Calibration techniques for temperature and pressure sensors. Thermal measurements under transient and steady-state conditions. Applications include conduction, convection, and radiation experiments. Uncertainty analysis. Prerequisite: ENGR 222 and 302.

402-3 Heat Exchange Equipment Design. Engineering design of heat exchange such as boilers, evaporators, cooling towers, furnaces, and systems involving combinations of conduction, convection, and radiation mechanisms. Emphasis is placed on application of basic principles of heat transfer and fluid mechanics to the design of heat exchange equipment. Students are encouraged to work open-ended problems with multiple possible solutions. Prerequisite: ENGR 222, 302, and 313.

403-1 Mechanical Engineering Measurements Laboratory. To familiarize students with the use of instruments to measure time, distance, velocity, acceleration, strain, fluid flow, and turbulence. Instruments include micrometers, laser distance meters, stroboscopes, oscilloscopes, incremental rotary encoder, LVDT, load cells, accelerometers, analog/digital convertors, pressure transducers, and related equipment. Prerequisite: 303, ENGR 311, and 313.

404-4 Optimization of Process Systems. Simulation and optimization of process systems based upon engineering science and economics fundamentals. Analysis and correlation of experimental engineering data and use of correlated data in simulation, design, and decision making. Design of systems using economics and continuous and discrete optimization methods encountered in engineering practice. Use of the computer is required. Prerequisite: ENGR 361, MATH 305, and senior standing in engineering.

405-3 Internal Combustion Engines and

Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines, and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: ENGR 300.

406-3 Thermal Systems Design. Applications of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigeration, air conditioning, spacecraft thermal control, and cogeneration. Numerical analysis and solution of an open-ended design problem. Prerequisite: ENGR 222, 300, and 302.

408-3 Energy Conversion Systems. Principles of advanced energy conversion systems; nuclear power plants, combined cycles, magnetohydrodynamics, cogeneration (electricity and process steam), and heat pumps. Constraints on design and use of energy conversion systems; energy resources, environmental effects, and economics. Prerequisite: 301 or 400.

410-3 Applied Chemical Thermodynamics and Kinetics. Course designed for students interested in chemical and environmental processes and materials science. Topics covered include applications of the second and third laws of thermodynamics, solution theory, phase equilibria, sources and uses of thermodynamic data, classical reaction rate theory, kinetic mechanisms, and the determination of rate-determining steps in chemical reactions. Prerequisite: CHEM 222 and ENGR 300 or consent of instructor.

416-3 Air Pollution Control. Engineering control theory, procedure, equipment, and economics related to control of particulate, gaseous, and toxic air emissions. The environmental impacts due both to controlling and not controlling emissions are considered. Understanding of the basics is evaluated as students design control equipment, specify and troubleshoot control systems, and predict the impacts for each major type of control system. Prerequisite: senior standing.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

430-3 Kinematic Synthesis. Kinematic synthesis of linkages, single loop and multiple loop mechanisms, and geared linkages. Vector synthesis of spatial mechanism and its computer simulation. Prerequisite: 310.

435-3 Design of Mass Transfer Processes. Design principles of mass transfer processes. The rate mechanisms of molecular, convective, and interphase mass diffusion. The design of selected industrial mass transport process operations such as absorption, humidification, water-cooling, drying, and distillation. Prerequisite: ENGR 302.

436-3 Mechanical Systems Control. Mathematical modelling of controls for me-

chanical systems. Dynamic behavior of controlled machines. Design of controlled mechanical systems. Prerequisite: 303 and 470 or consent of instructor.

440-3 Heating, Ventilating, and Air Conditioning Systems Design. Principles of human thermal comfort. Heating and cooling load analysis. HVAC system design. Air conditioning processes. Prerequisite: ENGR 300, 302.

442-3 Passive Solar Design. Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Prerequisite: ENGR 300 and 302.

443-4 Engineering Design. Mechanical design of process systems including costing and scheduling. Project design definition may include layouts, instrumentation, electrical systems, fluid flow, piping, heat exchange equipment, motors, pressure vessels, pumps, compressors, and concrete and steel structure design and specification. Cost factors leading to an optimal system design will be considered. Not for graduate credit. Prerequisite: senior standing in mechanical engineering.

446-3 Energy Management. Fundamentals and various levels of analysis for energy management of commercial buildings and industrial processes and buildings. Use of energy management systems and economic evaluations are required in course projects. Prerequisite: ENGR 300, 302, and 313.

462-3 Physical Metallurgy. Structure of metals. Dislocation theory and plasticity. Solid-state diffusion. Thermodynamics of solutions and phase diagrams. Phase transformations. Fracture mechanics. Creep and fatigue. Prerequisites: ENGR 222 and 312.

463-3 Introduction to Ceramics. Structure and physical properties, mechanical properties, processing, and design with ceramics. Prerequisite: ENGR 312 or equivalent.

465-3 Materials Preparation and Processing. Forming and processing of materials. Solidification: single crystal techniques, plane front and dendritic solidification, microsegregation, nonequilibrium structures. Vapor deposition: homogenization, crystallization, precipitation. Powder preparation, sintering, and densification. Deformation processing: rolling, forging, extrusion, drawing, preferred orientation. Prerequisite: 462.

470-3 Simulation and Control of Machines. Dynamic simulation and control of machines. Vibration analysis of mechanical systems, applications of Laplace transform to modeling mechanical systems, transfer functions, and open/closed loops. Response of basic control systems. Prerequisite: ENGR 260b and MATH 305.

472-3 Materials Selection for Design. Interaction of material design process with material selection criteria. Comparison of materials properties, processes, and fabrication. Laboratory work includes design models, material selection rationale, oral presentation of

projects, construction of mock-up models, and theoretical design. The students will be required to solve open ended design problems in the area of the student specialization. Prerequisite: ENGR 222 and ENGR 312.

475-3 Machine Design I. Design of machines using bearings, belts, clutches, chains, and brakes. Develops application of the theory of fatigue, power transmission, and lubrication to the analysis and design of machine elements. Prerequisite: 310, ENGR 222, 311.

476-3 Machine Design II. Design of machines using gears, springs, screws and fasteners, and adhesives. Matching power sources to driven machines. Prerequisite: 475.

492-1 to 5 Special Problems in Engineering. Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

500-3 Advanced Engineering Thermodynamics. Principles of kinetic theory and classical statistical mechanics applied to thermodynamic systems. Statistical interpretation of the equilibrium state and thermodynamic properties of engineering systems. Introduction to irreversible thermodynamics with engineering examples. Prerequisite: ENGR 300.

501-3 Transport Phenomena. Mechanism of heat, mass, and momentum transport on both molecular and continuum basis. Estimation of transport properties. Generalized transport equations in one or three-dimensional systems. Analogy of mass, heat, and momentum transfer. Macroscopic balances, simultaneous mass, and heat transfer. Prerequisite: ENGR 302.

502-3 Advanced Heat Transfer. Engineering considerations involved in the construction of mathematical and numerical models and the interpretation of results of analyses of conduction and radiation heat transfer mechanisms. Prerequisite: ENGR 302.

503-3 Convective Heat Transfer. Laminar and turbulent convective heat transfer over surfaces and inside tubes. Heat transfer inside non-circular tubes. Heat transfer in developing flows. Heat transfer at high velocities. Influence of temperature-dependent properties. Prerequisite: ENGR 302.

504-3 X-Ray Diffraction and Electron Microscopy. (Same as Physics 571.) X-ray physics. Geometry of crystals. Scattering of X-ray by atoms, crystals, and noncrystalline matter. Kinematical theory of diffraction. Powder method, Laue method. Electron optics. Formation and analysis of diffraction patterns. Imaging techniques. Image contrast theories. Analysis of crystal defects. Advanced analytical electron microscopes.

506-3 Solidification Processing. Heat flow in solidification. Plane front, cellular, dendritic, eutectic, and spherulitic micromorphologies. Micro and macro segregation. Fluid flow during solidification. Processing and properties of castings. Rapid nonequilibrium solidification techniques. Prerequisite: 464.

507-3 Combustion Phenomena. Basic combustion phenomena-chemical rate pro-

cesses-flame temperature, burning velocity, ignition energy, quenching distance, and inflammability limits-laminar and turbulent flame propagation-aerodynamics of flame-gaseous detonations-two phase combustion phenomena-fluidized bed combustion. Prerequisite: ENGR 300.

509-3 Thermal Radiation Heat Transfer. Review of radiation fundamentals. Prediction of radiative properties using classical electromagnetic theory. Properties of real materials. Governing equations between blackbody and gray surfaces. Effects of specular reflecting non diffuse, non gray surfaces. Radiation in the presence of other energy transfer modes. Approximate and computer solution techniques. Prerequisite: ENGR 302.

510-3 Electrochemical Engineering. Principles underlying electrochemical processes. Transformation of chemical and electrical energy. Application of fundamental electrochemical laws to industrial processes, energy conversion, corrosion, and reactor design. Prerequisite: consent of instructor.

520-3 Coal Conversion and Combustion Processes. The major presentday and proposed processes converting coal to other energy forms (gaseous and liquid fuels, coke, steam, electricity, etc.). Coal properties and chemical reaction relationships affecting conversion process paths. Design of coal gasification, liquefaction, combustion, and carbonization reactor systems. Environmental assessment and cost considerations related to coal conversion. Prerequisite: graduate standing or consent of instructor.

525-3 Small Particle Phenomena. Small particle formation, behavior, properties, emission, collection, analysis, and sampling. Includes atomization, combustion, transport of suspension and sols, filtration, light scattering, and movement patterns of mono and poly-disperse particles and use of a device to measure size, size distribution, and one other physical property of an aerosol. Prerequisite: graduate standing.

531-4 Reaction Engineering and Rate Processes. Chemical kinetics of homogeneous and heterogeneous reactions, kinetic theories, mechanism and mathematical modeling. Reactor design. Design of multiple reactions; temperature and pressure effects. Nonisothermal and nonadiabatic processes. Non-ideal reactors. Prerequisite: 435.

532-3 Separation Processes and Equilibrium Operations. Phase equilibrium, multistage calculations, graphical methods, unsteady-state stagewise operations. Multicomponent systems. Rate separation processes. Applications in processing industry. Prerequisite: 435.

535-3 Computer Aided Analysis of Mechanical Systems I. Computer aided kinematic and dynamic analysis of planar mechanism: topics will include formulation of kinematic and dynamic equations of motion for planar systems. Automatic generations of kinematic constraint such as revolute joint, translation joint, etc. Numerical techniques for solution of nonlinear, differential, and al-

gebraic equations, application of these techniques to planar mechanism and robotic systems. Prerequisite: 310.

536-3 Computer Aided Analysis of Mechanical Systems II. Computer aided kinetic and dynamic analysis of spatial mechanical systems. Topics will include: formulation of kinematic and dynamic equations of motion of spatial systems using Euler angles and quaternions, automatic generation of kinematic constraints such as spherical joints, universal joints, etc., numerical methods for spatial mechanisms, modeling of spatial mechanisms, general purpose software development and its application. Prerequisite: 535.

540-3 Introduction to Continuum Mechanics. Tensor analysis applied to continuum mechanics: stress and strain and their invariants, equations of compatibility, constitutive equations including linear stress-strain relations. Prerequisite: MATH 305, ENGR 311, graduate standing in engineering.

560-3 Surface Science and Interfaces. Surface structure and composition; ultrahigh vacuum techniques; surface analytical instruments; grain boundary structure; absorption; catalysis; grain boundary embrittlement.

562-3 Environmental Degradation of Materials. Course designed for majors in engineering and the physical sciences. Topics covered include general corrosion, oxidation, hydrogen embrittlement, stress corrosion cracking, and fine particle erosion. Approach will draw on principles of chemistry and materials science. Prerequisite: CHEM 222 and one of the following: 460, 462 and ENGR 312, or consent of instructor.

580-1 to 4 Seminar. Collective and individual study of issues relating to thermal and environmental engineering. Four hours maximum course credit.

581-1 Scientific Evaluation and Research in Engineering. Concepts and procedures for undertaking and conducting research projects are covered. This includes surveying relevant scientific literature and expands upon techniques for obtaining, evaluating, and reporting existing and measured data. Required of all department graduate students. Prerequisite: graduate studies in engineering.

592-1 to 4 Special Investigations in Engineering. Advanced topics in thermal and environmental engineering. Topics are selected by mutual agreement of the student and instructor. Four hours maximum course credit. Prerequisite: consent of instructor and department chair.

599-1 to 6 Thesis. Six hours maximum course credit.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Electrical Engineering

Graduate work in the Department of Electrical Engineering is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

421-2 Digital Computers in Applied Physical Research. Computational techniques for matrix inversion, solution of linear equations, and characteristic roots and vectors. Least squares analysis, curve-fitting, and regression. Numerical quadrature. Solution of nonlinear equations. Solution of regular differential equations and boundary-value problems. Generation of approximate solutions. Monte Carlo techniques. Engineering and other physical examples are used as the primary teaching vehicle. Prerequisite: ENGR 222 and MATH 305.

424-3 Design of Microprocessor-Based Systems. Microprocessor terminology and system design. Design of a complete computer system. A systems approach is taken to individual student designs of microprocessor systems using state-of-the-art computer technology. Individual projects are assigned. Prerequisite: 426 and 427.

426-4 Microcomputer Systems. Application and makeup of microcomputer systems. Microprocessor programming and applications with various interface devices including input/output ports, analog-to-digital and digital-to-analog converters. Lecture, laboratory, and design project. Three hours of lecture and two hours of laboratory per week. Prerequisite: ENGR 222, 225, and 345 or consent of instructor.

427-3 Structure of Digital Computers. Introduction to structure and design of digital computers, central processing unit, arithmetic unit, memory organization including cache and virtual memory concepts, input and output systems, interrupts and direct memory access, hardwired microprogrammed control units. Future trends in computers. Prerequisite: 327.

428-3 Digital Hardware Design-I. Fundamentals of digital hardware design. Systems with a microcomputer as the controller. Microcomputer buses and interfaces. One major design-and-construction project laboratory. Prerequisite: 427, or 465, or the consent of the instructor.

443-4 Electrical Engineering Design. Projects of an electrical engineering systems design nature. Students select a problem, define and design the various subsystems, define subsystem interface requirements, integrate the subsystems into the final design, and document the design effort. Laboratory. Not for graduate credit. Prerequisite: senior standing.

446-4 Electronic Circuit Design. Design techniques for a wide range of electronic cir-

cuits. Device and circuit modeling. Computer aided circuit design. Consideration of audio, video, and tuned amplifiers; feedback; oscillators; digital circuits. Design project. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 455 or concurrent enrollment; ENGR 345.

447-3 Applications of Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices are used to illustrate performance characteristics and the relation between device design parameters and terminal properties. Three hours of lecture and two hours of laboratory per week. Prerequisite: ENGR 222, 312, and 345.

448-3 Laser Electronics. A study of the excitation and lasing process in various liquid, solid, and gas lasers. Techniques and principles utilized in the design of a laser system are also covered. Three hours of lecture and two hours of laboratory per week. Prerequisite: ENGR 345.

455-3 Linear Systems. Fundamental techniques in analysis of linear systems. Transient analysis of linear electrical networks and analogous systems by classical, Laplace-transform, and computer techniques. Feedback, frequency response, and state variables. Prerequisite: ENGR 335 and MATH 305.

456-3 Control Theory. Fundamentals and techniques for analysis and design of systems with feedback. Signal flow graphs. S-plane analysis. Frequency-domain analysis. Root locus. Stability conditions. Compensation techniques. Prerequisite: 455.

457-3 Systems Theory. In-depth study of system such as interaction, anticipation, feedback, feedforward, stability, and memory. Methods which maintain flexibility and generality in dealing with all types of engineering systems. Prerequisite: MATH 305 or consent of instructor.

458-3 Communications Theory. Basic information theory. Fourier series and transform. Sampling theory. Amplitude modulation, frequency modulation, and pulse modulation. Signal-to-noise ratio. Statistical methods. Prerequisite: 455.

459-3 Digital Control. Analysis and design methods for discrete-data and digital control systems using tools like Z-transforms, state variable equations, stability criteria time-domain response, and frequency-domain response. Prerequisite: 225 and 455.

461-4 Bio-electricity and Biomedical Instrumentation. Interdisciplinary course primarily for life-science students. Electromagnetics relative to living systems. Circuit analysis. Functional electronics. Electric safety. Specific clinical and research instrumentation. Lecture and laboratory.

462-3 Biomedical Instrumentation and Measurements. (Same as Physiology 462.) Diagnostic and therapeutic modalities related to engineering. Includes study of electrocardiography, ultrasonography, and chemical instrumentation; radiation therapy, electrosurgery, and prosthetic design. Prerequisite: senior standing in any branch of engineering and

at least one course in human physiology or consent of instructor.

465-3 Instrumentation. Theory and practice related to measurement systems for research and industry. Instrument characteristics. Techniques in analog and digital instrumentation. Transducers. Signal conditioners. Output and display systems. Statistics of measurement. Design project. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: ENGR 345.

468-3 Digital Signal Processing. Discrete systems. Z-transforms, discrete Fourier transform. Fast Fourier transform algorithms. Digital filter design. Applications in speech and image processing. Prerequisite: 455.

477-3 Electromagnetic Waves. Transmission lines, Maxwell equations, wave equations, boundary conditions, plane wave phenomena and theories, guided wave phenomena and theories, rectangular wave guides, surface waves, resonating structures, and radiating structures. Prerequisite: 375 or consent of instructor.

478-3 Digital Communication. Application of probability theory and random processes in digital communications systems. Behavior of digital communication systems in noise. Performance comparisons of digital modulation systems. Optimum signal detection. Entropy and channel coding. Prerequisite: 355.

479-3 Electromagnetic and Optical Measurements. Fundamental measurement techniques in electromagnetic wave systems and optical systems. Accurate measurements of microwave properties of materials, laser transmission-reception, modulations, and holographs. One hour lecture and six hours laboratory per week. Prerequisite: 477 or consent of the instructor.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy converters including thermionic, thermoelectric, and photovoltaic. Prerequisite: ENGR 385 or consent of instructor.

487-4 Power Systems Analysis I. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Per-unit quantities. Network analysis applied to power systems. Load flow concept. Prerequisite: ENGR 385.

488-3 Power Systems Engineering. Economic operation of power systems; symmetrical components; short circuit analysis; stability. Prerequisite: 487.

489-3 Electric Power Distribution. Electric power distribution requirements and their accomplishment, including determination of load characteristics, design of primary and secondary distribution networks, metering, voltage regulation, and protection. Prerequisite: 487.

492-1 to 3 Special Studies in Electrical Engineering. Individual projects and problems selected by student or instructor. Open to seniors only. Prerequisite: consent of instructor.

493-1 to 3 Special Topics in Electrical

Engineering. Lectures on topics of special interest to students in various areas of electrical engineering. Designed to offer and test new experimental courses in electrical engineering. Prerequisite: consent of instructor.

527-3 Switching Circuit Theory. Study of both combinational and sequential switching circuits with emphasis on sequential networks. Threshold logic. Fault detection and location in combinational circuits. Finite-state machines including: minimization, state assignment, races, state-identification. Asynchronous sequential circuits. Linear sequential machines. Prerequisite: 427.

529-3 Analog-to-Digital Conversion and Related Devices. Principles, analysis and design of analog-to-digital converters, video converters, voltage-to-frequency (V/F) and frequency-to-voltage (F/V) converters; universal synchronous/asynchronous receiver/transmitter circuits; hardware implementation of: Fourier analysis, infinite/finite impulse response (IIR/FIR) filters; microcoded systems, fixed and floating point accumulators. Two projects. Prerequisite: 428 and 465 or consent of instructor.

536-3 Network Synthesis. Introduction to modern network synthesis. Driving point and transfer functions. Positive real functions, Foster networks, and Cauer networks. Active network elements. Synthesis using active elements. Prerequisite: 445 or consent of instructor.

542-3 Optical Information Processing. Fraunhofer and Fresnel diffraction, the reciprocity theorem, Kirchoff's integral. General aspects of mutual coherence. Basic properties of recording materials. Phase transformation of thin lenses, Fourier transform properties of lenses, coherent optical information processing systems and applications. Introduction to holography and its applications. Prerequisite: 355.

547-3 Solid-State Theory of Electronic Materials. Electronic properties of materials and their application to practical devices. Quantum and statistical mechanics. Semiconductor principles and devices. Thermo-electric phenomena. Magnetic materials. Quantum electronics and lasers. Prerequisite: consent of instructor.

548-3 Advanced Electronic Devices. A study of techniques in fabricating microelectronic and discrete electronic devices and influences on device design. Thick-film hybrid, thin-film hybrid, monolithic bipolar, and monolithic MOS technologies will be examined. Prerequisite: 447 and ENGR 345.

549-3 Fiber Optics Communication. Fundamentals of step index and graded index fiber waveguides using geometrical optics and Maxwell's equations. Other topics include design criteria, practical coupling techniques, discussion of optical sources and detectors used in light-wave communications, system examples, characterization and measurement techniques. Prerequisite: 455 and 447 or 448; or consent of instructor.

551-3 Probability and Random Processes. Event and probability. Random variables

and sequences. Stochastic processes. Frequency domain analysis, Wiener filters. Dynamical systems. Recursive filtering. Kalman filters. Nonlinear and stochastic differential systems. Likelihood ratio. Hypothesis testing and signal detection. Prerequisite: 458 and MATH 483 or consent of instructor.

552-3 Statistical Theory of Communication. Elementary detection and estimation theory. Hypothesis testing. Sequential testing. Application to digital communication problems; detection, synchronization. Prerequisite: 551.

553-3 Data Communications Network. Layering. Data link control. Capacity assignment. Time delay. Queueing theory. Routing and flow control. Multiple-access networks. Collision-resolution algorithms. ISDN and metropolitan area networks. Mobile radio. Prerequisite: 551, or equivalent course in probability theory and consent of instructor.

554-3 Spread Spectrum Communication. Concepts of spread spectrum systems, frequency hopping, and direct sequence systems. Anti-jamming performance analysis, synchronization schemes, and systems with forward error correction. Prerequisite: 552 or consent of instructor.

556-3 Modern Control Theory. Introduction to topics in modern control theory. State variables. Concepts of controllability and observability. Stability theory. Nonlinear control. Sampled-data control theory. Signal-modulated systems. Optimal control. Prerequisite: 456 or consent of instructor.

557-6 (3,3) Complex Systems. Theory, techniques, and philosophy of analyzing and designing complex engineering systems. Methods which maintain generality in dealing with complex combinations of diverse subsystems such as electrical, mechanical, chemical, transport, and biological. Prerequisite: 457 or consent of instructor.

558-3 Digital Image Processing. Basic concepts and techniques for digital image processing. Topics include image fundamentals and representation, image transforms, enhancement, restoration, segmentation, description, and classification. Prerequisite: 355 and 468.

562-3 Advanced Biomedical Instrumentation. Scientific and mathematic analysis of instrumentation in diagnostics, therapeutics, and medical research. Purposes of instrumentation related to physiology and pathology. Prerequisite: 462 and 465.

577-3 Antenna Theory and Design. The application of Maxwell's equations to radiating structures. Theory and design of antennas. Prerequisite: 477, or consent of instructor.

580-1 to 4 Seminar. Collective and individual study of selected issues and problems relating to various engineering areas.

586-3 Power Systems Analysis II. Techniques for solving power system problems. Network reduction. Load-flow, short-circuit, and transient-stability studies. Utilization of digital and analog computers. Prerequisite: 487.

587-3 Power System Operation and Con-

trol. Advanced mathematical and operations research methods applied to power systems such as economic dispatch, unit commitment, transmission losses, control of generation, power pools, and power system security. Prerequisite: 488 or consent of instructor.

592-1 to 3 Special Investigations in Electrical Engineering. Individual advanced projects and problems selected by student or instructor. Prerequisite: graduate standing and consent of instructor.

593-1 to 3 Advanced Topics in Electrical Engineering. Lectures on advanced topics of special interest to students in various areas of electrical engineering. This course is designed to offer and test new experimental courses in electrical engineering. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Engineering Technology

There is no graduate program offered through engineering technology. See manufacturing systems for graduate program description. Four-hundred-level courses in this listing may be taken for graduate credit unless otherwise indicated in the course description.

The student is required to purchase photographs and maps for certain courses, and a suitable slide rule is strongly recommended for most courses. Cost is approximately \$10 to \$25.

401-3 Refrigeration and Air Conditioning. Applications of thermodynamics and heat flow to air conditioning systems. Heating and cooling load analysis. Principles of human comfort. Discussion of various refrigeration and air conditioning cycles and their application to laboratory simulators. Laboratory. Prerequisite: 313b.

403-8 (4,4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, opto-electronic devices, thyristors, unijunction transistors, and amorphous semiconductors. Laboratory. (b) Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a, b sequence. Prerequisite: 304b.

404-3 Machine Design Technology. Strength and safety considerations in design of machine parts. Fatigue and stress concentrations, bearings, brakes, clutches, and springs. Applications of the principles of mechanics to problems of design and development, mechanisms. Not for graduate credit. Prerequisite: 260a, 311.

408-3 Computer Assisted Drawing and Design. Theory and practice of computer graphics as applied to computer assisted design. Use of programming and commercial programs to assist in mechanical engineering technology design projects. Not for graduate credit. Prerequisite: 103, 404, ENGR 222, and senior standing.

413-4 Field Survey Problems. Perform extensive field projects in the areas of engineering, hydrographic, land, and control surveying. To be held at Crab Orchard National Wildlife Refuge. Course must be taken concurrently with 414. Prerequisite: 263 and one of 361, 362, or 363.

414-2 Field Project Planning and Computations. Planning, organization, computations, and drafting of field survey projects including the needed mapping utilizing calculators, computers, and CAD. This course must be taken concurrently with 413. Prerequisite: 263 and one of 361, 362, or 363.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISC and ACI codes. Prerequisite: 311 (or concurrent enrollment), 315, 202.

424-6 (3,3) Power Systems Technology. (a) Fundamentals of basic power plant operation and equipment; e.g., fuels, steam generators, heat exchangers, turbines, pumps, and nuclear reactors. Prerequisite: 313a, ENGR 222. (b) A study of cycles, heat balances, efficiencies, and power plant economics. Student is exposed to the design considerations and trade-offs associated with the total design of power plant. Prerequisite: 318, 424a.

426-5 (3,2) Photogrammetry. (a) Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs; ground control methods; extension of control; stereoscopy and parallax; basic instruments; stereo plotters, and latest developments. Laboratory. Prerequisite: 263 or consent of instructor. (b) Rectification of tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.

437-8 (4,4) Communications Systems Technology. (a) Theory and applications of radio frequency transmission lines, waveguides, optical fibers, wave propagation, and antennas. Laboratory. Prerequisite: 304b. (b) Theory and applications of analog and digital communications systems. Laboratory. Prerequisite: 403a, 437a.

438-8 (4,4) Continuous and Digital Con-

trol Systems. (a) Fundamentals of continuous control systems; equation of electrical, hydraulic, and thermal systems; application of Laplace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams and compensator design. Continuous-systems laboratory. Prerequisite: 304b. (b) Fundamentals of digital control systems. Stepper motors, digital data acquisition and interface components, Fourier transforms, Z transforms, and applications of fast Fourier transforms. Digital control laboratory. Prerequisite: 438a.

439-4 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 238 or concurrent enrollment.

492-1 to 6 Special Problems in Industry and Technology. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Prerequisite: consent of instructor.

English

401-3 Modern English Grammars. A review of modern approaches to grammatical analysis in English language only, this course is specifically designed to meet needs of in-service or prospective teachers of composition and language arts, particularly at the secondary and college levels.

403-3 History of the English Language. A survey of the development of the language from Indo-European to modern English with special emphasis on Middle and Early Modern changes.

404-3 Middle English Literature Excluding Chaucer.

405-3 Middle English Literature: Chaucer.

412-3 English Non-Dramatic Literature: The Renaissance.

413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century.

414-3 English Non-Dramatic Literature: The Later Eighteenth Century.

421-3 English Romantic Literature.

422-3 Victorian Poetry. Victorian poets: Tennyson, Browning, Arnold, and other poets in England.

423-3 Modern British Poetry.

425-3 Modern Continental Poetry. Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece.

426-3 American Poetry to 1900. Trends in American poetry to 1900 with a critical analysis of the achievement of the more important poets.

427-3 American Poetry from 1900 to the Present. The more important poets since 1900.

436-3 to 9 (3 per topic) Major American Writers. Significant writers of fiction and nonfictional prose from the Puritans to the 20th Century. May be repeated only if topic varies, and with consent of department.

438-3 Intellectual Backgrounds of American Literature. The relationship of basic ideas in America to American literature.

445-3 Cultural Backgrounds of Western Literature. A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers.

451-3 Eighteenth Century English Fiction. Defoe through Jane Austen

452-3 Nineteenth Century English Fiction. Victorian novel: 1830-1880.

453-3 Modern British Fiction.

455-3 Modern Continental Fiction. Selected major works of European authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.

458-3 American Fiction to the Twentieth Century. The novel in America from its beginnings to the early 20th Century.

459-3 American Fiction of the 20th Century. Trends and techniques in the American novel and short story since 1914.

460-3 Elizabethan and Jacobean Drama. Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Green, Peele, Kyd, Marlowe, Heywood, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley.

462-3 English Restoration and 18th Century Drama. After 1660, representative types of plays from Dryden to Sheridan.

464-3 Modern British Drama.

465-3 Modern Continental Drama. The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal.

468-3 American Drama. The rise of the theater in America, with readings of plays, chiefly modern.

471-3 Shakespeare: The Early Plays, Histories, and Comedies.

472-3 Shakespeare: The Major Tragedies, Dark Comedies, and Romances.

473-3 Milton. A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises.

481-3 Literature for the Adolescent. Criteria for evaluation of literary materials for junior and senior high school, with emphasis on critical approaches in selection of literature.

484-3 Non-Print Media and English. Theory and application of film and other non-print media to the study and teaching of English. Especially emphasized is the relationship between print and non-print communications systems and verbal and non-verbal systems. Prerequisite: consent of instructor.

485-3 Problems in Teaching Composition, Language, Literature, and Reading in High School.

490-3 Expository Writing. An advanced expository writing course designed to improve the student's ability to write clear and effective expository prose. The main work of the course will consist of the writing and revising of a set of essays that reflect a variety of rhetorical strategies. Required readings will provide models and subject matter for some of the assignments. Prerequisite: GE-D 101 and 117, 118, or 119, or 120 or equivalent; 390 or equivalent.

491-3 Technical Writing. An all-university course designed to teach advanced academic and professional (non-fictional) writing skills. Prerequisite: GE-D 117, 118, or 119, or equivalent.

492-3 to 9 Creative Writing: Workshop. The topic varies among the writing of poetry, drama, or prose. A directed written project will be submitted at the end of the semester in prose, poetry, or drama. A collection of short stories or poems, a novel, or play of what instructors consider to be acceptable quality will fulfill the senior project requirement. Prerequisite: consent of instructor.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advanced; both students and faculty suggest ideas. May be repeated as the topic varies.

494-3 Literary Criticism Applied to Film. The course will deal with the history and theories of literary criticism. Students will have the opportunity to apply concepts of literary criticism to a series of films which they will view. A \$10.00 screening fee is required.

495-3 Literary Criticism. Includes both history of criticism and modern criticism. Open only to seniors and graduate students.

496-3 to 6 (3,3) Topics in Women's Literature. (Same as Women's Studies 452.) Syllabus, which may vary with instructor, identifies new areas of research on women authors, and includes an examination of appropriate critical models that have emerged in feminist criticism.

497-3 to 9 (3 per topic) Senior Honors Seminar. Topics vary yearly. May be repeated as the topic varies. Prerequisite: departmental approval and undergraduate status.

498-3 to 9 Internships. For English majors only. Student may take up to nine semester hours to receive credit for internships with SIU Press, Special Collections, University Museum, Coal Center, and other academic units. Prerequisite: written approval from department and academic unit.

499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language. For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours.

501-3 Research in Composition. Materials and methods of research in composition teaching, curriculum, and administration. Analysis of significant research and designing of research will be included. Prerequisite:

GE-D 101 and 117, 118, or 119, or 120, or equivalent; 390 or equivalent.

502-3 Introduction to Graduate Study and Teaching College Composition. An introduction to research methods and materials which includes a survey of critical approaches to the study of English and American literature, combined with an introduction to methods and materials related to the teaching of basic compositional skills on the college level. This course is required of all graduate assistants who have no previous college teaching experience or no familiarity with basic research techniques.

506-3 to 12 Anglo-Saxon and Medieval Studies. Seminars on various topics from Old and Middle English literature including the works of Chaucer. May be repeated only with different topics and the consent of the department.

510-3 to 12 Renaissance Studies. Seminars in varying topics concerned with the literature of the 16th and 17th centuries and the drama of Shakespeare. May be repeated only with different topics and the consent of the department.

516-3 to 12 Restoration and 18th Century Studies. Seminars in varying topics concerning the literature of the period. May be repeated only with different topics and the consent of the department.

530-3 to 12 19th Century English Literature. Seminars in various topics concerning the literature of the Romantic and Victorian periods. May be repeated only with different topics and the consent of the department.

533-3 to 12 Early American Literature. Seminars in varying topics in American literature. May be repeated only with different topics and the consent of the department.

539-3 to 12 Modern American Literature. Seminars in varying topics concerning Modern American literature. May be repeated only with different topics and the consent of the department.

550-3 to 12 Modern British Literature. Seminars in varying topics concerning Modern British literature. May be repeated only with different topics and the consent of the department.

579-3 to 12 (3 per topic) Studies in Modern Literature. May be repeated only if the topic varies, and with consent of department.

581-3 to 9 (3 per topic) Problems in Teaching English. May be repeated only if the topic varies, and with consent of department.

593-3 to 12 Special Topics. Seminars in varying topics concerning language and literature. May be repeated only with different topics and the consent of the department.

595-1 to 9 Independent Readings. Preparatory for preliminary examinations for doctoral students in English. May be taken once only, grade of S/U, according to the result of the preliminary examination. Prerequisite: twenty-four classroom credit hours beyond the M.A., exclusive of audits and readings.

596-3 to 12 Language Studies. Seminars in varying topics concerning theories of rhet-

oric, grammar, and the teaching of prose composition. May be repeated only with different topics and the consent of the department.

599-3 Thesis. For masters' students who elect to write a thesis in lieu of one three hour graduate course. Prerequisite: successful completion of 15 hours of graduate work on the master's degree and consent of the thesis director.

600-1 to 36 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

English as a Foreign Language

(See Linguistics.)

Finance

(See Business Administration.)

Foreign Languages and Literatures

436-3 Methods in Teaching Foreign Languages. Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish.

475A-12 to 34 Full Year Abroad in Austria. Two semesters at the Padagogische Akademie at Baden and at various institutions of higher learning in Vienna. All courses are taught in German. Students may obtain 30 to 34 semester hours of credit in German language, literature, and civilization and with prior approval in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, and sociology. Not for graduate credit. Prerequisite: 5 semesters of college German or equivalent with 3.0 grade point average.

495-3 to 6 Internship. Provides structure within which previous studies can be given ap-

plication normally in a foreign setting. Placement is arranged through the department, while supervision is provided at the internship site. Prerequisite: junior standing and prior approval by the department. Such approval requires attainment of an accepted level of language competency. Not for graduate credit.

506-1 to 4 Research Problems—French. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

507-1 to 4 Research Problems—German. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

508-1 to 4 Research Problems—Russian. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

509-1 to 4 Research Problems—Spanish. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

535-2 Critical Theory. Theories of literature and theories underlying literary criticism, taken logically rather than chronologically. Extensive reading, in the original language whenever possible, of both primary statements and exemplificative documents.

566-3 Bibliography and Research Techniques. Introduction to the use of the chief reference works in the humanities and social sciences as they pertain to foreign languages in general. Also, extensive work with bibliography and research methods in French, German, or Spanish.

568-2 Bibliography and Research Techniques—Russian. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as they deal with areas in which the target language is spoken.

Chinese

No graduate program in Chinese is offered through the Eastern Languages and Civilization section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or introduction to linguistics.

435-3 Business Chinese. An overview of China's business through reading in Chinese dealing with the major aspects of China's foreign trade ranging from broad principles and policies to concrete details of operation and procedure. Enhancement of conversational skills for business contexts. Prerequisite: 320 or equivalent.

490-1 to 6 Advanced Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

Classics

No graduate program is offered through the classics section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Latin. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Latin as a Research Tool. Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

405-2 Greek Literature in Translation. (Same as Women's Studies 463.) Reading and analysis of selected classical Greek author(s), genre(s), theme(s), such as the role of woman, the social life of the ancient Greeks, etc. Students taking the course for graduate credit will do a critical study in one aspect. No knowledge of Greek or Latin is required.

406-2 Latin Literature in Translation. Reading and analysis of selected Roman author(s), genre(s), theme(s). Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required.

415-1 to 9 (1 to 3 per topic) Readings from Greek Authors in Greek. Reading and interpretation of works of Greek literature at an advanced level. Prerequisite: two semesters of 300-level Greek or consent of instructor.

416-1 to 9 (1 to 3 per topic) Readings from Latin Authors in Latin. Reading and interpretation of works of Latin literature at an advanced level. Prerequisite: two semesters of 300-level Latin or consent of instructor.

488-3 Advanced Latin as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion.

Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of Latin or equivalent.

496-2 to 8 Independent Study in Classics Program. Guided research on problems in classics. The academic work may be done on-campus or in conjunction with approved off-campus activities. Not for graduate credit. Prerequisite: consent of instructor.

French

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in French. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320.

411-3 Linguistic Structure of French. (Same as Linguistics 413.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320 and 321 or equivalent.

412-4 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required.

414-3 Translation Techniques. Practice in oral translation—simultaneous and subsequent; written translation practice, from and into French, of materials from sources varying from technical, commercial, political, to general interest. Advanced grammar and syntax review as they relate to translation, with practice through exercises and translation. Prerequisite: 320 or equivalent.

415-3 Literary Stylistics. A study of the aesthetics and theory of French literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive

qualities of each writer's genius. Consideration is given to various stylistic methods.

419-3 Romance Philology. (Same as Spanish 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, Tristan, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers.

435-3 Business French II. Detailed treatment of postal facilities and services, types of banks and their operations, transport of goods, import-export, bills of exchange, billing and shipping, insurance, accounting, and the stock market. These topics will be the subject of translations and of commercial correspondence. Prerequisite: 320 or equivalent, may be taken independently of 335.

438-3 Business French II. A continuation of 435 but may be taken independently. Translations of business documents, oral and written presentations of news items on business in France, and commercial correspondence. Detailed study of transportation of goods, conditions, and documents of sales, payments, imports and exports, banking, French companies, insurance, and taxes. Prerequisite: 320 or equivalent.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writings of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques, and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett.

470-3 Backgrounds of French Civilization. A study of the events, figures, and movements in France which have influenced its culture and civilization.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320 or equivalent.

476-3 to 6 (3,3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past

and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320, 321, and consent of instructor.

501-2 to 6 Studies on a Selected Topic or Author. Intensive study of one author or topic.

510-3 Masterpieces of French Literature. Appreciation and analysis of selected masterpieces in French literature with special attention given to required authors and works from the Master of Arts reading list.

520-1 to 3 Literature of the Middle Ages and Renaissance. A study of selected authors, literary movements, and expressions of the political realities and the philosophical currents of the Middle Ages and Renaissance.

525-3 Advanced Language Skills. Consideration of levels of linguistic expression in contemporary French through the study of theoretical works and representative texts. Practice in composition and translation.

536-1 Teaching French at the College Level. Prepares graduate students in French for teaching at the college level. Required of all teaching assistants in French. May not be counted to satisfy secondary certification requirements.

539-1 to 3 Literature of the 17th Century. Collaborative research in selected works of neo-classical French authors. Lectures, reports, discussions, paper.

540-1 to 3 Literature of the 18th Century. Selected topics, movements, or authors in the literature of the 18th Century.

550-1 to 3 Literature of the 19th Century. Selected topics, movements, or authors in the literature of the 19th Century.

560-1 to 3 Literature of the 20th Century. Study of an author, theme, movement, or critical literary issue of contemporary interest. Topics may range from the Existentialist vision or the Quest for Self to the novel of commitment of the New Novel.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours

of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S*, *U* or *DEF* only.

German

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in German. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 German as a Research Tool. Intensive study of German as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with the course instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320b or equivalent.

411-3 Linguistic Structure of Modern German. The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

412-3 History of the German Language. The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

435-3 Business German. An overview of West German business, presented through lectures, readings, and discussions. Coursework with textbooks and supplementary materials will focus on the major aspects of German business. Exercises will include vocabulary building, listening and reading comprehension, oral and written summarization, role playing in typical situations, mock telephone conversations, and business correspondence. Prerequisite: 320 or consent of instructor.

440-3 Studies in Early German Literature. The literature of the German speaking countries from the early Middle Ages through the seventeenth century, with varying emphasis on authors, themes, genres, periods. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

450-3 Studies in 18th Century Literature. Examination of the major writers and movements together with their social, historical, and intellectual background during the

18th century in Germany and Austria. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

455-3 Studies in 19th Century Literature. Detailed focus on specific aspects rather than a general survey of 19th century literature, e.g., major periods and movements, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 and 335, consent of instructor, or graduate standing.

480-3 Studies in 20th Century Literature. Detailed focus on specific aspects rather than a general survey of 20th century literature, e.g., major periods, movements and tendencies, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

488-3 Advanced German as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department and with a grade of *B* or *A* satisfies graduate program requirement for foreign languages as research tool. Prerequisite: passing of CLEP test in German; or one year of college level German; or consent of instructor (as determined by examination).

490-1 to 6 (1 to 3, 1 to 3) Independent Study in German. Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor.

501-3 to 6 (3,3) Seminar in Literature. Intensive study of a selected topic in German literature. Topics will vary and are announced in advance.

502-3 to 6 (3,3) Seminar in Germanic Linguistics. Intensive study of a selected topic in historical or descriptive Germanic linguistics. Revolving subject matter; may be repeated once for a total of six semester hours. Prerequisite: 412 or consent of instructor.

510-3 Middle High German. Grammar of Middle High German, relation of Middle High German to modern German, and selected readings (in original) from the *Nibelungenlied*, courtly epic and lyric poetry, and didactic prose.

536-1 Teaching German at the College Level.

550-3 Advanced Studies in 18th Century German Literature. Intensive and exten-

sive study of German and Austrian literature of the 18th century augmented by individual or collaborative student research projects on selected authors or topics.

555-3 Advanced Studies in 19th Century Literature. This course goes beyond GER 455 in terms of (1) more extensive and intensive readings; (2) the study of literary texts in the context of (literary) history and with respect to literary theory; (3) the reading, discussion, and application of scholarly methods and approaches to analysis/interpretation of literature; (4) requiring further independent oral and written work in German.

580-3 Advanced Studies in 20th Century Literature. This course goes beyond GER 480 in the terms of the same considerations listed under GER 555.

590-3 to 9 (3 per topic) Independent Study on Special Topics in Literature and Language. May be repeated only if the topic varies, and with consent of department.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Greek

No graduate program in Greek is offered. See classics for selected graduate courses in Greek.

Japanese

No graduate program in Japanese is offered through the Eastern Languages and Civilization section.

Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Phonology and syntax of the Standard Japanese. Special emphasis on the contrastive analysis between Japanese and English. Typological similarities and lexical borrowings between Chinese and Japanese. Prerequisite: one year of Japanese or introduction to linguistics.

435-3 Business Japanese. An introduction to the language and culture of the Japanese business world and to the structure of the Japanese business economy. The emphasis will be on learning appropriate levels of formality and politeness in oral communication and on achieving competency in the specialized language of business. Prerequisite: 320 or equivalent.

490-1 to 6 Advanced Independent Study in Japanese. Directed individual study of some questions, author, or theme of signifi-

cance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

Latin

No graduate program in Latin is offered. See classics for selected graduate courses in Latin.

Russian

No graduate program is offered through the Russian section. (See Chapter 2 for Russian as a teaching specialty for the Master of Science in Education degree in secondary education or in higher education.) Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Russian. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Russian as a Research Tool. Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

411-3 Russian Stylistics. Writing style in Russian and its application to the development of skill in written expression.

415-3 Russian Linguistic Structure. Structural analysis of present-day Russian with special attention to morphology and syntax.

430-4 Business Russian. A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent.

465-3 Soviet Russian Literature. Major fiction writers and literary trends since 1917. Lectures, readings, and reports.

470-3 Soviet Civilization. Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films, and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite. May count toward Russian major with consent of graduate adviser.

475-2 to 3 Travel-Study in USSR. Specialized course comprising part of the travel-study program in the Union of Soviet Socialist Republics. Prerequisite: 201 or equivalent.

480-4 Russian Realism. Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports.

485-3 Russian Poetry. A study of literary trends and representative works of Russian poets.

488-3 Advanced Russian as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of *B* or *A*, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

490-1 to 3 Independent Study. Directed independent study in a selected area. Prerequisite: consent of the Russian section head.

501-2 Seminar on a Selected Russian Author. Intensive study of one author, including the author's life, work, and place in the literary and cultural development of civilization.

502-2 Seminar in Contemporary Russian Literature. Intensive study of the works of representative Russian authors, with special reference to the correlation existing between literary expression and social, economic, and political conditions since the Revolution. Lectures, outside readings, reports are required.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Spanish

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Spanish. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Spanish as a Research Tool. Intensive study of Spanish as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

410-3 Advanced Language Study. De-

signed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320.

411-3 Linguistic Structure of Spanish. Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

412-3 History of the Spanish Language. Survey of internal and external history, from Vulgar Latin to modern Spanish.

419-3 Romance Philology. (Same as French 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.

425-3 Spanish Literature before 1700. The literature of Spain from its beginnings in the Middle Ages through the Golden Age.

430-3 The Golden Age: Drama. Plays of Lope de Vega, Calderon, Tirso de Molina, and others.

431-3 Cervantes. *Don Quixote*.

434-3 Colonial Literature in Spanish America. Study of the literature of Spanish America before 1825.

435-3 Business Spanish. Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320.

460-3 Spanish Literature of the 20th Century. The main currents and outstanding works in the literature of Spain since 1900.

463-3 Chicano Literature. An introduction to the literature written in the United States by Chicanos and other Hispanics.

485-3 The Spanish American Short Story. Survey of the genre in Spanish America.

486-3 Spanish American Drama. A survey of the development of the genre from the earliest times to the present.

487-3 Spanish American Novel. Survey of the genre in Spanish America.

488-3 Advanced Spanish as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of *B* or *A*, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Spanish or equivalent.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

502-3 to 6 (3,3) Seminar in Hispanic Linguistics. Involves intensive study of a selected topic.

503-3 to 6 (3,3) Seminar in Peninsular Spanish Literature. Intensive study of a selected topic.

504-3 to 6 (3,3) Seminar in Spanish American Literature. Intensive study of a selected topic.

521-3 Medieval Spanish Literature. Studies in epic and didactic literature, and lyric poetry.

530-3 Golden Age Drama. Intensive study of Golden Age drama.

535-2 to 4 (2,2) Spanish American Literature before 1900. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

536-1 Teaching Spanish at the College Level. Prepares graduate students in Spanish for teaching at the college level. Required of all teaching assistants in Spanish.

540-3 Spanish Literature of the 18th and 19th Centuries. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

560-3 Spanish Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

565-3 to 6 (3,3) Spanish American Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Forestry

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation or education, or consent of instructor.

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Spring semester odd years. Prerequisite: MATH 140.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing. The course is an introduction to the theoretical and practical considerations of remote sensing for an interdisciplinary audience. Coverage will stress background information about the electromagnetic spectrum, reflectance characteristics of various objects, sensors, filters, platforms, and energy flow between object and sensor. Prerequisite: advanced standing or graduate status.

409-4 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests, particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, MATH 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

411-3 Forest Resources Economics. Introduction to forest economics: Application of micro and macro-economics principles to forest timber and non-timber production; capital theory; benefit-cost analysis; and economics of conservation. Prerequisite: ABE 204 and MATH 140.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 per student. Prerequisite: summer camp or consent of instructor.

417-2 Forest Land-Use Planning. Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

418-2 Marketing of Forest Products. The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing

channels, marketing problems, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

420-3 Park and Wildlands Management.

The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320C or 422T.

421-3 Recreation Land-Use Planning.

Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.

422C-4 Park and Wildlands Management Camp.

A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320C and consent of instructor.

423-3 Environmental Interpretation.

Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

429-4 Wildland Watershed Analyses.

A lecture/laboratory course designed to provide a practical knowledge of the equipment, procedures, and tests used in determining the quality and quantity of waters flowing within and out of wildlands. Prerequisite: CHEM 140a.

430-3 Wildland Watershed Management.

Emphasis is placed upon the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331.

431-3 Regional Silviculture.

Designed to evaluate the various silviculture practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310C.

451-2 Natural Resources Inventory.

Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Prerequisite: 351 or consent of instructor.

452-2 Forest Soils.

Characterization and fundamental concepts of forest soils and their relationship to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Spring semester even years. Prerequisite: PLSS 240 and concurrent enrollment in FOR 452L.

452L-2 Forest Soils Laboratory. Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Spring semester even years. Prerequisite: PLSS 240 and concurrent registration in FOR 452.

453-2 Environmental Impact Assessment in Forestry.

Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems of environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trip cost, \$20. Prerequisite: senior standing in a natural resource major.

454-2 to 8 Forest Ecology Field Studies.

A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) southern Appalachians; (d) southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.

460-2 Forest Industries. Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry discussed.

470-2 Wilderness Management, Policy, and Ethics.

Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.

490A-2 Resources Management Consortium.

Intensive field course in resources management decision-making. Student serves as team member in solving resource problems in forestry, wildlife management, recreation, and interpretation at Land Between the Lakes. Enrollment is limited to six. Student must have consent of the instructor. Course taught at Land Between the Lakes. Cost of room and board not to exceed \$100.00. Not for graduate credit.

492-1 to 4 Special Studies for Honor Students.

Research and individual problems in forestry. Not for graduate credit. Prerequisite: consent of chair and 3.0 minimum grade point average.

494-1 to 6 Practicum.

Supervised practicum experience in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution, and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) outdoor recreation resource management, (c) forest resources management. Prerequisite: consent of instructor.

500-2 Principles of Research.

Research

philosophy, approaches to research; theory, hypotheses inference, and predicting; problem identification, project development and organization; methods of data collection, analysis, and presentation; drawing conclusions and organizing results. Prerequisite: four hours in statistical methods or consent of instructor.

501-1 Graduate Seminar. Presentation and critiques of current research project of faculty, graduate student, and selected resource persons.

511-2 Advanced Forest Resources Economics. Application of microeconomic, macroeconomic, and capital theory to forest resource problems; introductory econometric methods; long range supply and demand projections; international forest economics and policy problems decision theory in forest resource management. Offered alternate years. Prerequisite: 411 or equivalent or consent of instructor.

512-2 Tree Selection and Breeding. Quantitative methods of describing variation patterns of trees, testing genetic and environmental effects and interactions, and evaluations of tree improvement program. Prerequisite: 412 or consent of instructor.

516-2 Advanced Forest Management. Case studies in forest land management, management planning, utilizing computer programming, CFI and TSI role in long range management planning. Offered alternate years—odd. Prerequisite: 416, 331, and summer camp or consent of instructor.

520-2 Advanced Park Planning. Study of nature and functions of the recreation environmental planning process in theoretical and policy terms. Types of plans at local, regional, and state levels. Evaluation of different types of planning approaches and their utility in particular situations. Offered alternate years. Prerequisite: 421 or consent of instructor.

521-2 Recreation Behavior in Wildlands Environments. Review of sociological and psychological theories relevant to outdoor recreation planning; management alternatives. Review of current behavior research in outdoor recreation. Application of behavioral concepts to recreation planning and administration. Offered alternate years.

530-2 Forest Site Evaluation. A discussion of the factors affecting site quality and their use in present site evaluation methods. Lectures will draw upon recently published scientific literature as well as forest research data collected and analyzed for southern Illinois forests. Laboratories will include sampling of forest sites and stands with subsequent analysis of data using graphic and statistical techniques and a computer to develop site evaluation models. Cost \$20. Prerequisite: 300, BIOL 307 or consent of instructor.

531-2 Biological Productivity of Forests. The production and accumulation of organic matter in forest ecosystems is analyzed in relation to vegetational composition and structure, biogeochemical cycles, and environmental factors. Methods of quantifying productivity are emphasized during laboratory period.

Cost: approximately \$15. Offered alternate years. Prerequisite: 331 or equivalent.

588-1 to 6 International Graduate Studies. University residential graduate program abroad. Prior approval by the department is required both for the nature of program and the number of hours of credit.

590-1 to 4 Readings in Forest Resources. Intensive consideration is given to current practices and problems in forestry. Prerequisite: consent of instructor.

593-1 to 4 Individual Research. Directed research in selected fields of forestry.

599-1 to 6 Thesis. Minimum of five hours to be counted toward a master's degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Geography

400-3 Geography of Outdoor Recreation. Analysis of patterns of outdoor recreation with an emphasis on metropolitan areas. Selected topics include demand forecasting methods, cost-benefit analysis and the valuation of recreation resources, and an analysis of the socioeconomic and spatial impacts of recreation facilities provision.

404-3 Spatial Analysis. The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of areal distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. GEOG 410 is advisable or consent of instructor.

406-2 Advanced Social Geography. Deals with one or more of the following: population, settlement, ethnic characteristics, political factors; depending on, and varying with interests of the instructors. Thus, a student may register more than one time. Emphasis will be directed at familiarizing the student with techniques of analysis and at developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 306 or consent.

410-4 Techniques in Geography. Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on areal measures: nearest neighbor analysis, cluster analysis, etc. Prerequisite: 300 or consent.

416-4 Specialized and Computer Map-

ping. Introduction to computer mapping, mapping from air photos, specialized cartographic problems based on individual student interests. Laboratory. Charges not to exceed \$2 for supplies. Prerequisite: 310 or consent.

418-3 Management of Spatial Data Bases. This course will teach students to use specialized computer programs for the collection, storage, analysis, and mapping of spatial data. A simplified methodology makes the techniques available to students with no previous computer experience. Prerequisite: 310, 304, or consent of instructor.

421-2 Urban Geography. Examination of extracity relationships—theory and structure; intra-city relationships—theory and structure; and selected urban problems. Offered once annually. Prerequisite: 300 or consent.

422-4 Economics in Geography and Planning. (Same as Economics 425.) Concepts, symbols, language, theory, elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 304 or consent of instructor.

424-4 Natural Resources Planning. Literature in resource management problems. Emphasis on theory, methods of measurement, and evaluation concerning implications of public policy. The role of resources in economic development and regional planning, water and related land resource problems, and environmental quality from a multidisciplinary perspective. Prerequisite: 304 or consent.

425-4 Water Resource Planning Simulation. A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 170,000 population. This plan is "played" against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent.

426-4 Administration of Environmental Quality and Natural Resources. (Cross-listed with Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government federal, state, and local as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Prerequisite: 300 or 326 or consent of instructor.

427-3 Environmental Perception and Planning. Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the per-

ception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent.

430-3 Environmental Systems Analysis. Exploration of the major environmental systems relevant to environmental planning. Topics include: concepts of systems and system behavior; basics of system analysis and modelling environment systems; environmental fluxes of energy and materials (e.g., hydrologic cycle, carbon cycle, energy budgets, erosion and sediment transport, role of biosphere in organizing fluxes); environmental variability. Prerequisite: 302, or consent.

432-4 Physical Environments of Cities. Energy and moisture budget concepts are developed from basic principles. Microclimatic data, instrumentation and applications stress urban examples. Models of climatic effects and modeling of people's effects concern city climates mainly. Charges not to exceed \$5 for field trips. Prerequisite: 302 or 430 or consent.

433-3 Advanced Physical Geography. Topics may include landforms, climate, soil, or water. Varies with the interest of the instructor. Prerequisite: 302 or consent.

434-4 Water Resources Hydrology. Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimate especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent.

435-3 Solar and Alternate Energy Planning. Regional and national strategies for energy supply and demand are reviewed followed by a study of current energy resources, reservoirs, and the range of demands and environmental impacts. Community and national planning strategies for increasing the use of solar and alternate energies are explored, simulated by analog computer, and assessed for present and future implementation probability. Field trip expenses not to exceed \$10. Prerequisite: 300.

436-3 Environmental Disaster Planning. Develop the skills and perspectives needed to plan effectively for natural and man-made disasters. The concepts of risk analysis, hazard mitigation and preparedness, response and recovery of the economic and social infrastructure in areas impacted by earthquakes, floods, droughts, radioactive and toxic material releases, and other catastrophic events.

438-3 Applied Meteorology. Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips. Prerequisite: GE-A 330 or consent of instructor.

439-3 Climatic Change—Inevitable and Inadvertent. The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future climatic state will be made. Charges not to exceed \$10 for field trips. Prerequisite: 330, 331 or consent of instructor.

440-2 Tutorial in Geography. Prerequisite: geography major, senior standing.

443-3 Teaching of Geography. Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300.

470-1 to 5 Urban Planning. (Same as Political Science 447.) (a) Planning concepts and methods. Charges not to exceed \$8 for field trips. (b) Field problems; optional, concurrent with 470a. Prerequisite: 326 or 421 or consent of instructor.

471-3 Regional Planning. A study of the viewpoints, methodology, and experiences of various types of regional planning in the United States; some attention given to state and national scale planning. Prerequisite: 300 or consent.

480-3 to 6 Internship in Geography. Supervised field work in private or public organizations dealing with planning, environmental management, or cartography and geographic information management. A written proposal about the planned internship must be submitted to a faculty supervisor prior to beginning the internship. A faculty supervised report on the work is required after the internship. Course may be repeated, but no more than six credit hours may be applied toward an undergraduate major. A graduate student may enroll for three credit hours. Prerequisite: geography major and consent of the department.

481-6 to 12 Cooperative Work Experience in Geography. Placement of advanced undergraduate or graduate students in private or public organizations for one or more semesters in a paid career-related position. The student gains professional experience under faculty and on-site supervision. A written proposal about the planned cooperative work experience must be submitted to a faculty supervisor before it begins. A report summarizing the work experience is required after the work experience ends. Course may be repeated. Six credit hours may apply toward degree requirements. Prerequisite: geography major and consent of the department.

487-6 (1,2,3) Honors in Geography. (a) Honors tutorial; (b) honors reading; (c) honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a,b,c or b,a,c sequence. Prerequisite: consent of department.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing.

500-2 Principles of Research. Problem identification in research, review of examples of geographic research, analysis of results of research and project statements are explored with appropriate faculty. Presentation of student research problems justification and identification of student program to complete degree are required.

501-2 Seminar in Geographic Research. Seminar approach to problems of completing background research design of project statements, identification of research methodology, and completion of thesis/dissertation project statements. Prerequisite: 500.

510-4 Multivariate Techniques in Geography. Introduction to matrices, vectors and linear equations; multiple regression and correlation, cononical correlation, multivariate analysis of variance and covariance, analysis of variance in two and three-way designs, multiple discriminant analysis, classification procedures, introduction to elementary factors analysis. Examples and demonstrations of each method; basic introduction to computer applications of multivariate analyses. Prerequisite: 410 or consent of instructor.

511-2 Philosophy of Geography. The nature of geography. Current trends in the field, present day geographers, and schools of thought. Geography's place among the disciplines. Prerequisite: graduate standing.

514-2 College Teaching of Geography. Prerequisite: graduate standing.

520-2 to 4 Seminar in Physical Systems Evaluation. Prerequisite: graduate standing.

521-2 to 4 Seminar in Resource Planning. Prerequisite: graduate standing.

522-4 Seminar in Economics in Geography and Planning II. (Same as Economics 525.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects, and programs, by students. Prerequisite: 422 or consent of the instructor.

524-2 to 4 Seminar in Social Geography. Prerequisite: graduate standing.

527-2 to 4 Seminar in Urban and Regional Planning. Prerequisite: graduate standing.

570-2 to 4 Planning Internship. Planning internship with city or regional planning agency or private planning firm. Prerequisite: 470a or consent of department.

591-2 to 4 Independent Studies in Geography. Prerequisite: graduate standing.

593A-2 to 24 (2 to 6 per semester) Research in Physical Geography. Prerequisite: 520.

593B-2 to 24 (2 to 6 per semester) Research in Economic Geography. Prerequisite: 521.

593C-2 to 24 (2 to 6 per semester) Research in Urban and Regional Planning. Prerequisite: graduate standing.

593D-2 to 24 (2 to 6 per semester) Research in Social Geography. Prerequisite: 524.

596-2 to 4 Field Course. Prerequisite: graduate standing.

599-2 to 6 Thesis. Prerequisite: graduate standing.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: graduate standing.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Geology

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip fee of \$2 to \$7.

412-3 Topics in Igneous Petrology and Geology. In-depth studies of selected topics in igneous petrology and igneous geology. The selected topics will emphasize theoretical considerations, experimental considerations, and field associations of a variety of igneous rock types. Lecture, discussion sessions, and laboratory. Prerequisite: 315, 415.

413-3 Quantitative Methods in Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geological studies, non-parametric tests of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor.

414-3 Paleobotany. (See Botany 414.)

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, PHYS 203b, 204b, or 205b.

416-3 X-ray Crystallography. (Same as Chemistry 416.) Introduction to the study, measurement, and identification of unknown crystalline materials by X-ray diffraction techniques (especially the Debye-Scherrer methods). Upon request, non-geology majors may work with unknowns from their own fields of study. Prerequisite: 310, MATH 150 or consent.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315 and 325 or consent. Recommended: PHYS 203, MATH 150 and GEOL 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, CHEM 222 or equivalent.

419-4 Ore Deposits. The geological and other factors that govern the exploration for and occurrence of metalliferous mineral deposits. Study of the geological settings of the major types of ore deposits. Lecture, laboratories, and field trips. Prerequisite: 302, 315.

420-3 Petroleum Geology. The geological occurrence of petroleum including origin, migration, and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 302.

421-3 Organic Geochemistry. The nature, origin, and fate of natural and artificial organic materials in rocks and sediments. Topics include characterization of fossil fuels using biological marker compounds, petroleum source rock evaluation, and organic pollutants in the environment. Prerequisite: 325 or consent of instructor.

425-4 Invertebrate Paleontology. Principles of paleontology and a survey of the important invertebrate phyla and their fossil representatives. Laboratory. Field trips required. Prerequisite: 221, a biology course.

428-3 Paleoecology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325 or concurrent enrollment.

430-3 Physiography of North America. A regional study of North American landforms and their origins. The approach designed to give interaction among students, stimulus in organization and presentation of material and library competence. Plan a trip for optimum view of North American physiography. Prerequisite: 220.

434-3 Volcanology. Volcanic processes and products. Topics include magmas, eruptive styles and mechanisms, lava flows, pyroclastic deposits, volcano morphology, monitoring, and prediction techniques. Prerequisite: 220, 315, and advanced standing.

435-3 Solid-Earth Geophysics. Earth's size, shape, mass, age, composition, and internal structure are reviewed in detail as understood from its volcanism, gravity and magnetic fields, seismicity, and motion of continents

and ocean basins; plate tectonics. Prerequisite: 302, MATH 150, or consent of instructor.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220, MATH 150.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis, and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor.

445-3 Museum Studies in Geology. History, nature, and purpose of geology in museums, relationships of geology to other museum disciplines, application of geological methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5. Prerequisite: 302, 315, or concurrent enrollment.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation costs approximately \$120, supplies \$6. Prerequisite: 302, 315, 450 recommended.

455-3 Engineering Geology. (Same as Engineering 455.) An examination of problems posed by geology in the design, construction, and maintenance of engineering works. Topics studied include ground water, land subsidence, earthquakes, and rock and soil mechanics. One term paper and a field trip required. Prerequisite: 220 or consent.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: ENGR 222 or CS 202.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introductions to dislocations, deformation history, and microfabric analysis. Hypotheses of orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

466-3 Tectonics. Fundamentals of geodynamics applied to plate tectonics: mantle composition and rheology, deformation of the lithosphere, structural characteristics of plate margins, stability of triple junctions, diachronous tectonics, and orogenesis will be examined in detail. Prerequisite: 302, MATH 150, or consent of instructor.

470-3 Hydrogeology. A problem-solving oriented course which covers the analysis and interpretation of the distribution, origin, movement, and chemistry of ground water. Laboratory. Prerequisite: 220, MATH 250.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220.

476-3 Pleistocene Geology. Deposits, stratigraphy, and history of the Pleistocene epoch. Evidence for differentiating and dating the glacial and interglacial sequence examined including deep sea cores, soils, magnetic studies. Required field trips. Prerequisite: 220, 221.

478-4 Environmental Geology. Application of principles of geomorphology to the understanding of environmental problems and geologic hazards. Emphasis on environmental problems related to soils, mass movements, rivers, flooding, waste disposal, groundwater, and coastal processes. Lectures, case studies, and seminars will focus on special problems. Lab exercises deal with techniques for assessing environmental hazards (i.e., slope hazards, soil descriptions, flood frequency, and surface water hydrology). Prerequisite: 220 and 474 or consent of instructor.

480-3 Geology of Coal. Geology as related to exploration, development, and mining of coal; stratigraphy sedimentation and structure of coal deposits; types of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures/week; five 1/2-day field trips.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 and 221 or consent of instructor.

484-3 Palynology. (Same as Botany 484.) Taxonomy, morphology, stratigraphic distribution, and ecology of fossil pollen, spores, and associated microfossils. Prerequisite: 220, 221, or consent of instructor.

500-1 to 2 Teaching for Geology Graduate Students. To help teaching assistants develop skills in conducting laboratory work and leading discussions. One hour required for all teaching assistants in geology. Graded S/U only.

510-2 Advanced Sedimentology. Basic principles of field observation, field and laboratory sampling, and data analysis of clastic sedimentary rocks; introduction to laboratory techniques; introduction to statistical, physical, and empirical models in sedimentary geology. Field trips required. Prerequisite: 325 or 474.

513-2 Advanced Geologic Data Analysis. Probabilistic and statistical methods utilized in the analysis of geologic data. Examples

taken from all areas of geology. Emphasis, however, on sedimentary and stratigraphic data analysis. Prerequisite: 460 or consent of instructor.

515-3 Instrumental Analysis in Geology. An introduction to modern methods of instrumental inorganic geochemical analysis that are particularly important in the geology sciences. This includes both operational theory and practical application of methods for the analysis of minerals, rocks, and aqueous solutions. Lecture, laboratory. Prerequisite: 310, CHEM 222 or equivalent, and consent of instructor; 418 recommended.

516-3 Industrial Rocks and Minerals. Geologic settings, origin and uses of rocks and minerals used by industry for purposes other than sources of metals. Lecture, laboratory, and field trips. Prerequisite: 315.

517-2 to 9 (2 to 3 per semester) Advanced Topics in Geochemistry. Specialized topics in geochemistry. Topics covered might include thermodynamic modeling of mineral-solution equilibria, the role of kinetics in mineral-solution reactions, experimental hydrothermal geochemistry, or other topics to be announced by the department. Maximum credit 9 semester hours. Prerequisite: 418 or consent of instructor.

518-3 Clay Mineralogy. Study of the structure, chemistry, origin, and geologic importance of clay minerals. Industrial and other applications of clays. Lecture, laboratory. Prerequisite: 310 or consent.

520-2 to 9 (2 to 3 per semester) Advanced Topics in Igneous and Metamorphic Petrology. Petrologic principles and their relationships and other selected topics to be announced by the department. Prerequisite: consent of instructor.

522-3 Sedimentary Petrology—Siliciclastics. The petrography and petrology of siliciclastic rocks, emphasizing sandstones. Microscopic studies of composition and components of detrital clastic rocks, their origin, provenance, characteristics, diagenesis, cementation, and lithification. Prerequisite: 325 or 415 or consent; 520 or 521 recommended.

523-3 Sedimentary Petrology—Carbonates. The origin, classification, diagenesis, and geochemistry of carbonate rocks, with emphasis on petrographic analysis. Study of recent carbonate depositional environments. Laboratory required. Prerequisite: 325, 418 recommended.

524-2 to 9 (2 to 3 per semester) Advanced Topics in Sedimentary Geology. Advanced topics in sedimentary geology. Topics may include clastic depositional environments, carbonate depositional environments; diagenesis of sedimentary rocks, and other topics to be announced by the department. Prerequisite: 428, or 522, or 523, or consent of instructor.

525-2 to 6 (2 to 3 per semester) Advanced Topics in Invertebrate Paleontology. Lectures, readings, field and laboratory studies, including techniques and quantitative methods of study. Preparation for research in

paleontology. Topics may include corals, bryozoans, brachiopods, mollusks, echinoderms, biostratigraphy, tempo and mode of invertebrate evolution, and other topics to be announced by the department. Maximum credit 6 semester hours. Prerequisite: 425 or consent of instructor.

526-3 Advanced Topics in Applied Paleocology. Lectures, field, and laboratory studies, including techniques and quantitative methods. Preparation for research in paleocology. Emphasis on using fossil marine invertebrates and trace fossils to interpret ancient sedimentary environments. Prerequisite: 428 or consent.

527-3 Micropaleontology. Structure, classification, paleocology, stratigraphic distribution, and evolution of microfossils. Laboratory work in techniques of collection, preparation, and study of microfossils. Identification and use of microfossils in solving stratigraphic problems. Preparation for research in micropaleontology. Prerequisite: 425 or consent.

535-1 to 9 (1 to 3 per semester) Advanced Topics in Geophysics. Specialized topics in geophysics. Examples include but are not limited to seismic stratigraphy, mid-continent seismicity, isostasy, data processing techniques. The topic to be covered is announced by the department. Maximum credit 9 semester hours. Prerequisite: 435 or 436 or consent of instructor.

536-3 Earthquake Seismology. Observational seismology. Topics include earthquake source mechanisms; propagation, reflection and refraction of elastic waves; ray theory; dispersion of surface waves; the effect of earth structure on the seismogram; and the seismograph. Research projects will be conducted using data from the SIU Geophysical Observatory. Prerequisite: 435 or 436, MATH 150, or consent of instructor.

537-3 Applied Seismology. Study of the seismic reflection techniques, including theory and methods of collection and analysis of seismic reflection data, the seismic method, waveform analysis, and digital filtering with computer applications and seismic instrument characteristics. Prerequisite: MATH 150 or consent.

538-6 (3,3) Gravity and Magnetism. (a) Gravity. Study of gravitational methods used in the solution of geological problems; topics include theory, field operations, data reduction, anomaly separation, two and three-dimensional analysis, and interpretation. **(b) Magnetism.** Study of magnetic methods used in the solution of geological problems; topics include theory, origin, time variations and induction, paleomagnetism, magnetic properties of earth materials. Field operations, anomaly separation, and interpretation. Prerequisite: 435 or 436, MATH 150, or consent of instructor.

542-2 (1,1) Seminar in Geology. Seminars in advanced topics in geology. Prerequisite: graduate standing.

565-3 Rock Deformation and Structural Systems. Advanced topics in structural geol-

ogy with emphasis on theoretical and experimental study of rock deformation and analysis of complex structural systems. Lecture and assigned problems only. Prerequisite: 462.

566-3 Advanced Topics in Structural Geology. Lectures, readings, and discussion of advanced aspects of rock deformation: dislocation theory and its applications to flow processes of rocks; experimental rock deformation; incremental and finite strain theory and analysis; and recent developments in structural geology. Prerequisite: 565.

570-3 Advanced Hydrogeology. A combination of lectures, seminars, and independent studies of advanced topics in hydrogeology, particularly geochemistry and the response of aquifers to stresses such as tides, recharge, and saline intrusion. Prerequisite: 470.

576-3 The Coastal Environment. Geomorphology, sedimentary processes, and deposits in the coastal zone. Emphasis on coastal processes, depositional environments, barrier islands, coastal erosion, and environmental/engineering problems. Includes special seminars focusing on current research problems, storms, nearshore sediment dynamics, sea level, Great Lakes, salt marshes. Texas coastal atlas, and coastal zone management. A research project and a several-day field trip are required. A cost of \$25 may be incurred by the student for the field trip. Prerequisite: 474 or consent of instructor.

577-2 to 9 (2 to 3 per semester) Advanced Topics in Surficial Geology. Studies of processes, landforms, and deposits in the surface or near surface geologic setting. Selected topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

578-3 Fluvial Geomorphology. Detailed study of river processes, landforms, and major concepts related to geology. Flood, drainage basin analysis, and hydraulic geometry. Prerequisite: 474.

582-1 to 6 (1 to 3 per semester) Advanced Coal Petrology. Microscopy, source materials, coalification, constitution, and classification of peats, lignites, bituminous coal, anthracite; applications to industrial problems. Prerequisite: 482.

591-1 to 6 Individual Research in Geology. Investigations in geology other than those for theses or dissertations.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 30 (1 to 16 per semester) Dissertation. Research for and writing of the doctoral dissertation. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Health Education

400-2 to 15 (2 to 3 per part) Health Appraisal of School Children. (a) General assessment. (b) Hearing conservation. (c) Vision training. (d) Spinal screening program. (e) Special topics. Includes the screening, testing, and evaluation for numerous health conditions related to hearing, vision, the cardiovascular system, skin, spine, and such diseases as diabetes, tuberculosis, herpes, and other such ailments. Included will be classroom lectures and presentations, a supervised practicum, and all students will develop a viable program in a particular problem area in a public school program.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention, and control of diseases in various community settings.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

403-3 Health Advocate Training. Provides students with knowledge and skills in the areas of peer health education, health advocacy, and referral. Instruction includes health care information from a wellness point of view. This course prepares students for the practicum in the health advocate program. Not acceptable for credit for M.S. degree in health education. Prerequisite: consent of instructor.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes.

406-3 A Seminar: The Health Professional and Human Sexuality Issues. Human sexuality issues which must be dealt with by professional health workers including nurses, physicians, patient educators, institutional supervisors, and other administrators are considered in the course and current approaches and solutions for questions raised by these issues are examined.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and materials.

410-3 Human Sexuality. Provides detailed in-depth information of such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

411-6 Emergency Medical Technician in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation having them adopt previously learned skills and newly developed skills. Prerequisite: 310 or 434.

430-3 Health and Injury Control in a Work Setting. (Same as Industrial Technology 430.) Assesses the health and injury control programs present in a work setting. Emphasis is given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

434-4 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid and emergency care procedures are needed. American Red Cross and American Heart Association Certification may be obtained. Materials purchased from the American Red Cross or the American Heart Association are required in this course. Prerequisite: consent of instructor.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health. The course deals with a wide variety of health concerns of American women as consumers in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Education—Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302S.

443S-3 Driver and Traffic Safety Education—Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education programs. Prerequisite: 442S or consent of instructor.

445-2 to 6 (2 to 3, 2 to 3) Contemporary Specialized Laboratory Techniques. Provides teachers and other highway safety personnel with instructional experience in (a) motorcycle safety, (b) emergency, evasive, and pursuit driving. Prerequisite: 302 or consent of instructor. Maximum of 6 semester hours may be obtained either graduate or undergraduate.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

455-3 Computer Applications in Health Education. Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

460-3 Health Programs in Secondary Schools. Orientation of teachers to health programs and learning strategies. Designed

for secondary education majors. Open to non-health education majors only.

461-1 to 12 Health Education Workshop. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Strategies. This course is designed for graduate students who are teaching assistants in the Department of Health Education. The purpose of the course is to enhance professional skills of those who are responsible for teaching health education, general education, and first aid.

475S-3 Traffic Law Enforcement and Planning. Acquaints safety and driver education teachers and highway safety personnel with purposes of traffic law enforcement and engineering, and methods used to fulfill these purposes. Emphasis is placed upon ways of improving existing services and coordinating efforts of official and non-official agencies concerning traffic problems. Prerequisite: 302S or consent of instructor.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443S or consent of instructor.

481S-3 Traffic and Safety Education—Evaluation Techniques. Emphasizes methods of evaluation as applied to traffic and safety education programs. Prerequisite: 480S or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices.

485-3 International Health. Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

488-3 Environmental Dimensions of Health Education. Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

489-3 Introduction to Vital Statistics. An introduction to bio-statistics; examination of

theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.

490-2 to 6 Field Experiences in School, Community Health, or Safety Education. Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: consent of instructor.

491-3 Health Teaching/Learning: School and Community. Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education.

495S-3 Driver Education for the Handicapped. Methods and techniques in the use of assistive equipment and program materials for teaching handicapped persons how to drive. Prerequisite: advanced standing or consent of instructor.

496-4 Industrial Hygiene. Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

499-3 Rx: Education in Health Care Settings. Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dietitians, therapists, pharmacists, social workers and related professionals.

500-3 Community Organization for Health Education. Theory and practices in community organization for health education; group work methods and leadership theories are explored. Field observations required.

510-3 Curriculum in Health Education. Analyzes the significance of current trends in curriculum theory and design; develops objectives, content, learning approaches, resource teaching-learning materials; and evaluation as components of a curriculum guide.

511-3 Health Education Conference Practicum. A summer practicum course taken in conjunction with 461, 462, or 463. Participants help plan the conference, analyze activities, suggest alternatives, assume leadership responsibilities, prepare conference proceedings, and design a comparable experience with another focal theme. Prerequisite: consent of instructor.

515-3 Review of Current Literature in Health Related Fields. Develops a broad philosophical framework for health education and safety education, examining a variety of professional materials for their relevance to such a framework. Reading, reporting, dis-

cussing, and interacting in relation to issues of contemporary and future concerns by conceptualizing health as a process in the realization of individual and societal goals.

520-3 Special Projects in Health Education. Study of problems in health education and safety education culminating in a research paper.

526-3 Evaluative Approaches to Health Education. Survey and analysis of health testing and evaluation procedures, uses and limitations of knowledge and attitude tests, behavioral inventories, check lists, questionnaires, interviews, and other techniques.

530S-3 Research in Traffic Safety. A study of unique problems related to traffic safety and a review and evaluation of contemporary studies. Prerequisite: graduate standing or consent of instructor.

533A-4 Foundations of Health Education I. Historical and philosophical foundations of health education dealing with principles of the discipline and preparation for services as a professional. Consideration of theoretical models of health and health education, professional ethical issues, and future directions.

533B-4 Foundations of Health Education II. Health education programs and program development and the interrelation of these with research and evaluation. Consideration is given to ethical, legal, and political issues affecting health education. Prerequisite: 533a or consent of instructor.

536-3 Professional Preparation in Health Education. Considers national, state, and local factors influencing professional preparation, accreditation, and certification processes. Emphasis upon influences of official and non-official agencies. Historical perspective, the present status, and future directions of the profession.

540-2 Health Facilities Management. An examination of planning approaches for health facilities and licensure, accreditation and certification, and various operational considerations for health facilities.

541-3 Issues in Health Care. Examination of current and continuing issues in the provision, administration, financing, and regulation of health care services. Prerequisite: 483 or consent of instructor.

550S-3 Current Developments in Traffic and Safety Education. Current problems, trends, and research studies in traffic and safety education are reviewed, critiqued, and evaluated.

555S-3 Traffic Safety Management. Course deals with highway safety legislation and other acts related to traffic safety. Application of safety management techniques, procedures and structure of federal and state agencies are emphasized. Prerequisite: consent of instructor.

572-3 Coordination and Supervision of School Health and Safety Programs. For advanced students who will have leadership responsibilities in planning, implementing, and coordinating comprehensive health and safety education programs at all levels from

preschool through junior colleges. Cooperative relationships among teaching, administrative, and supervisory personnel with community groups will be stressed.

590-8 Practicum in Community Health. Students are assigned full-time to a community health agency for experiences in health education. Restricted to those specializing in community health.

592-8 Practicum in Safety and Industrial Health. Students are assigned full-time to a safety agency or industry for experience in either safety or industrial health. Restricted to those specializing in safety industrial health. Prerequisite: consent of instructor.

597-2 (1,1) Seminar in Health Education. Advanced graduate students discuss individual health projects and present research problems. Each will present a dissertation prospectus.

598-3 Institute: Writing Research Proposals. Consideration is given to funding sources, proposal guidelines, procedures for support, budgetary requirements, and evaluation procedures. Students examine different types of funded projects, develop a research prospectus, and analyze the art of grantsmanship and political action.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Higher Education

(See Educational Administration and Higher Education.)

History

413-6 (3,3) Medieval Society. (a) The early Middle Ages, A.D. 400-1000; (b) the late Middle Ages, A.D. 1000-1400. An examination of the distinctive elements of medieval European civilization. The first semester will be concerned with the transition from ancient to medieval society and the gradual development of a new social regime. The second semester will consider the full development of that new regime, its flowering in the 13th century, and the crisis of the 14th century.

418-3 Renaissance. The focus is on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries.

421-6 (3,3) Absolutism and Revolution: Europe 1600 to 1815. (a) 1600 to 1715; (b) 1715 to 1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period.

422-6 (3,3) Intellectual History of Modern Europe. (a) 1600 to 1815; (b) since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period of Marx and Darwin to the Contemporary World.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3,3) Social and Revolutionary Movements in 19th Century Europe. (a) 1815 to 1871; (b) 1871 to 1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution.

425-6 (3,3) Twentieth Century Europe. (a) Era of the world wars; (b) since 1945. Political, social, cultural, and economic development of the major European states during the present century.

432-3 History of France. Social, economic, political, and intellectual evolution from mediaeval origins to the present day. French contributions to western culture.

433-3 History of Germany. German state and society from the Middle Ages to the present day.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present.

436-3 History of Spain. Spanish state and society from the Middle Ages to the present.

437-6 (3,3) History of Russia. (a) Imperial Russia from Peter the Great to the emancipation of the serfs; (b) Russia since emancipation: modernization and revolution. The study of Russian history from Peter the Great to the present.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic, and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

442-3 Cultural History of England, 1780-1914. An examination of Victorian society and values as reflected in such sources as novels, essays, and memoirs.

443-3 Twentieth Century England. The social, economic, and political development of England in the 20th century.

450-6 (3,3) Early America. The evolution of American society from European settlement through the Age of Jefferson, with special em-

phasis on social and political institutions and thought.

451-3 United States History, 1815-1850. The struggle for democratic institutions and the emergence of sectional conflict in the Jacksonian Era.

452-6 (3,3) United States History 1850 to 1896. (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization: 1885 to 1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.

453-6 (3,3) Twentieth Century American History. (a) 1896 to 1921; (b) 1921 to 1945. The history of the United States since the 1890s with emphasis upon politics, political ideas, and diplomacy.

460-6 (3,3) Social and Intellectual History of the United States. (a) To 1860; (b) since 1860. The development of American society and a study of the various types of economic, social, and political thought that have influenced it.

461-6 (3,3) Constitutional History of the United States. (a) to 1877; (b) from 1877. Origin and development of the American constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system.

463-6 (3,3) History of American Diplomacy. (a) To 1900; (b) since 1900. General consideration of American foreign policy and the emergence of the United States as a world power.

464-6 (3,3) American Economic History. (a) To 1869; (b) since 1869. The growth of the American economy from the colonial period to the present. Emphasis is placed on the historical forces which influenced the American economic system.

465-6 (3,3) History of the South. (a) The Old South; (b) the New South. Social, economic, political, and cultural developments of the South.

466-6 (3,3) History of the American West. (a) Trans-Appalachian frontier. (b) Trans-Mississippi frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

470-6 (3,3) Continuity and Change in Latin America. (a) To 1825; (b) since 1825. The interaction of economic forces and intellectual currents with Latin America social structures and political institutions, from pre-Columbian times to the present.

474-3 Andean South America. The political, economic, social, and cultural development of the Andean nations from Precolumbian times to the present.

480-6 (3,3) History of Chinese Civilization. (a) Traditional China. (b) Modern China. The first semester provides a full coverage of traditional China with emphasis on classical philosophies, religions, historical writings, literature, arts, and science. The second semester deals with the transformation of China into the modern ages.

484-3 History of Central Asia. Tribes, migrations, wars, and power politics in Central

Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier.

490-1 to 4 Special Readings in History. Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

491-3 Historiography. Writings of historians from Herodotus to the present.

492-3 Historical Research and Writing. Methods of historical investigation, criticism, and composition. Restricted to undergraduate majors in history.

493-1 to 6 Problems in History. Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

494-3 Quantitative Research in History. An introduction to the application of quantitative data and social science methods to historical research.

495-4 History Honors. Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.

496-1 to 9 Internship in History. Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and six hours toward the M.A. degree. Prerequisite: consent of department.

497-3 Historical Museums, Sites, Restorations, and Archives. The historical development of the museum from the Academy, the Lyceum, and the Great Museum of Alexandria. Discussion of the museums that have developed in the last three centuries with emphasis on the United States will include historical sites such as battlefields, forts, historic buildings, restorations, historical monuments, and major archives. Field trips to some of these sites form part of the course.

498-3 Problems of the History Museum. Examines the general background and function of the museum in its contemporary setting with special emphasis on tasks of the individual who wishes to work in a historical museum or in an interpretative center. Given in cooperation with the University Museum. Prerequisite: consent of instructor.

500-2 The Historian's Craft. Examination of historical methodology and recent trends in historiography. How historians conduct research and convey the results of it. Special treatment of selected topics of historiography. Required of M.A. degree students. Ph.D. degree students should consult graduate advisers.

501-3 Recent Historiography. Trends in historical writing and historical interpretation in the 20th Century.

522-3 to 15 (3 per semester) Colloquium in European History. Group reading and discussion about major periods, subregions, and themes in European history. May be repeated as instructors and topics vary.

523-4 to 20 (4 per semester) Research Seminar in European History. Research and writing on selected topics in European history. Students will prepare a major paper. May be repeated as topics and instructors vary.

554-3 to 15 (3 per semester) Colloquium in United States History. Group reading and discussion about major periods, subregions, and themes in United States history. May be repeated as topics and instructors vary.

555-4 to 20 (4 per semester) Research Seminar in United States History. Research and writing on selected topics in United States history. Students will prepare a major paper. May be repeated as topics and instructors vary.

570-4 to 12 (4 per semester) Research Seminar in Latin American History. Research and writing on selected topics in Latin American history. Students will prepare a major paper. May be repeated as topics vary.

571-3 to 9 (3 per semester) Colloquium in Latin American History. Group reading and discussion about major periods, subregions, and themes in Latin American history. May be repeated as topics vary.

580-4 to 12 (4 per semester) Research Seminar in Asian History. Research and writing on selected topics in Asian history. Students will prepare a major paper. May be repeated as topics vary.

581-3 to 9 (3 per semester) Colloquium in Asian History. Group reading and discussion about major periods, subregions, and themes in Asian history. May be repeated as topics vary.

590-1 to 8 (1 to 3 per semester) Readings in History. Individual readings. Registration by special permission only. Student must obtain the consent of the faculty member involved. M.A. degree students are limited to a maximum of 4 hours toward the 30-hour requirement. Graded *S/U* only. Prerequisite: registration by special permission only.

591-2 to 5 Independent Investigation. Graded *S/U* only. Prerequisite: doctoral standing and consent of graduate adviser.

593-4 to 12 (4 per semester) Research Seminar in Contemporary History. Research and writing on selected topics in contemporary history. Students will prepare a major paper. May be repeated as topics and instructors vary.

594-3 to 9 (3 per semester) Colloquium in Social Science History. Group reading and discussion relating to the use of theories and methods from the social science disciplines in historical interpretation.

595-4 to 8 (4,4) Research Seminar in Comparative History. Research on selected topics employing cross-cultural or other comparative approaches. Students will prepare a major paper. May be repeated as topics vary.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 30 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have

not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Industrial Technology

There is no graduate degree program offered through industrial technology. See Manufacturing Systems for graduate program descriptions. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

410-3 Mining Reclamation. Study of reclamation techniques associated with underground and surface coal mining. Emphasis is placed on the integration and cost trade-offs associated with coal extraction and reclamation as well as federal, state, and local regulations. Prerequisite: consent of instructor.

420-3 Coal Preparation and Analysis. Study of coal preparation and blending in association with coal analysis. Design and operation of preparation plants including water management, waste management, coal storage, loading, and transportation.

425-3 Advanced Process Design and Control. Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 309, 310.

430-3 Health and Injury Control in a Work Setting. (Same as Health Education 430.) Assesses the health and injury control in a work setting. Emphasis is given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

439-3 Bulk Materials Handling. Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

440-3 Manufacturing Policy. Review of all areas covered by the industrial technology program. Includes problems for solution which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 358, 365, 375, 382, or consent of instructor.

441-3 Mine-Safety Technology. An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

445-3 Computer-Aided Manufacturing.

Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control, and quality control. Laboratory. Prerequisite: 208, computer programming, or consent of instructor.

450-3 Industrial Systems Analysis. Teaches the systems required for successful industrial operations. The role of the computer in system design and application is emphasized.

455-3 Industrial Robotics. Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 340.

460-3 Mining Technology. A capstone course to include all aspects of coal mining. Group projects are assigned on the design and development of a mine with emphasis on cost, productivity, yield, equipment, and staffing. Prerequisite: 320, 321, 420, or consent of instructor.

465-4 Industrial Safety. Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act. Prerequisite: senior standing.

466-3 Occupational Safety and Health Standards. Covers the standards, inspection procedures, and compliance requirements covered in the latest revisions of the Occupational Safety and Health Act of 1970. Emphasis is placed on developing the student's ability to detect violations of the standards and recommend corrective safety actions.

475-3 Quality Control. Use of statistical quality control to improve work product quality. Topics include histogram, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, and reliability. Prerequisite: senior standing.

492-1 to 6 Special Problems in Industry. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

Journalism

400-3 History of Journalism. Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying

factors that facilitate or restrict the flow of intranational and international communication.

405-3 Introduction to Mass Communication Research. Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Not for graduate credit. Prerequisite: 309, or 310, or consent of instructor.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. Prerequisite: 311.

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

452-3 Ethics and News Media. An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications for the media and for society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

476-3 Advertising Campaigns. Application of advertising principles and techniques to the solution of a specific advertising problem facing a cooperating advertiser or advertising agency; problem analysis, development of strategy, media planning, message development, campaign presentation. Prerequisite: 372 and 374.

479-3 Social Issues and Advertising. Analysis of social issues involving advertising economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international, and other problems and controversies. Prerequisite: senior standing.

490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings. Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Prerequisite: written consent of instructor and area head.

494-1 to 3 Practicum. Study, observation, and participation in publication or broadcast

activities. Prerequisite: consent of instructor and area head. Mandatory Pass/Fail for undergraduates.

495-1 to 12 (1 to 6, 1 to 6) Proseminar. Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

500-3 Research Methodology in Mass Communication I. Identification of research problems, formulation of concepts and research hypotheses in journalism and mass communication, sampling procedures, design of experimental and survey research.

501-3 Research Methodology in Mass Communication II. Problems of measurement, design, and analysis in journalism and mass communication research. Techniques of attitude scaling, questionnaire construction. Bivariate and multivariate data analysis. Procedures for the creation, management, and analysis of large data sets using computer programs. Prerequisite: 500 and EPSY 506, concurrent registration in 507.

504-3 Foundations of Mass Communication Theory. Conceptual orientation toward analysis of relationships in the mass communication channels. Emphasis on problem identification and relationships between philosophical basis for behavioral analysis of communication and empirical work in the field; reviews of selected literature.

505-3 Theoretical Issues in Mass Communication. Analysis and critique of recent theory and research. Examination of current trends in research and reviews of selected literature relating to mass communication in the areas of systems, interpersonal, mass media, intercultural, political, organizational, instructional, and health communication. Prerequisite: 504.

506-3 Significant Studies in Mass Communication Research. A review of a broad selection of early literature in communication research that has provided much of the conceptual basis for empirical studies during the past two decades.

510-3 Literature of Journalism. Critical reading, discussion, and evaluation of 20th century journalistic literature in such areas as media history, muckraking, press criticism, biography, memoirs and reminiscences, depiction of the journalist in fiction, new journalism.

511-3 Studies in Journalism History. Critical analysis of literature showing trends and developments in journalism before 1900. Approximately 100 books are examined in the context of social, political, and intellectual history of the times. Lectures, reports, and discussions.

512-3 Press Freedom and Censorship. Examination of the philosophical and theoretical bases of press freedom in the United States with attention to the press's English heritages and to numerous attempts at media censorship from the colonial period through the 20th century.

520-3 Communication and National De-

velopment. Functions of mass media of communication in the process of national development in the third world. Review of models of national development; problems in the diffusion and adoption of innovation; diffusion of information and influence in modernization of developing countries.

530-3 Historical Research in the Mass Media. Methods of data collection, analysis, organization, and presentation for historical research in mass media. Use of such sources as newspapers, archives, personal papers, manuscripts, and oral history. Use of statistical methods in mass media historical research. Prerequisite: 511.

540-3 Legal and Governmental Research in the Mass Media. Study of research procedures related to executive, congressional, judicial, and quasi-official reports and documents as they affect the mass media. Focus of the study will be an examination of the legal interrelationship of the government and the media. Prerequisite: 442.

550-1 to 12 (1 to 4, 1 to 4, 1 to 4) Topical Seminar. Seminars on subjects of current interest, with the topics determined through student and faculty request and interest. Topics include audience analysis, communication and social systems, media economics, persuasive communications.

560-3 Seminar: Critical and Persuasive Writing. An analysis of the opinion function of the news media—the editorialest, the opinion columnist, and the critical reviewer—with emphasis upon the theoretical bases of persuasion. Students will study and evaluate various types of persuasive writing and will also write a number of editorials, columns, and reviews.

592-1 to 6 (1 to 3, 1 to 3, 1 to 3) Individual Research. Conduct of research reports for projects of an individual nature.

599-1 to 6 Thesis.

600-1 to 24 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Linguistics

The Department of Linguistics offers courses toward the Master of Arts degree in applied linguistics and the Master of Arts degree in English as a foreign language.

401-4 General Linguistics. Basic concepts and methods of general linguistics. Fundamentals of the nature, structure, and function-

ing of language. Data manipulation and problem solving.

402-6 (3,3) Phonetics. (a) Theory and practice of articulatory phonetics. (b) Theory and practice of instrumental phonetics. Prerequisite: 402a.

403-3 English Phonology. Study of English phonology, both American and British, including phonetics, phonemics, and prosodics. Prerequisite: 300 or 401, and 402a, or consent of department.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics.

405-4 Phonological Theories. A survey of various phonological theories involving the phoneme from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspective of the different theories. Prerequisite: 300 or 401, and 402a.

406-3 Introduction to Historical Linguistics. An introductory survey of historical and comparative linguistics, including terminology, assumptions, and methods of investigation. Prerequisite: 403 or 405; 408 recommended.

408-4 Syntactic Theory. Basic concepts and formalisms of transformational generative grammar. Data manipulation and problem solving in English syntax. Prerequisite: 300, or 401, or consent of department.

410-10 (5,5) Intermediate Uncommon Languages. Review of the structure of modern spoken language. Introduction to written language. Emphasis on conversational style. The first semester carries undergraduate credit only. (g to h) Vietnamese. Prerequisite: 210 or equivalent.

411-3 The Linguistic Structure of Chinese. (See Chinese 410.)

412-3 The Linguistic Structure of Japanese. (See Japanese 410.)

413-3 Linguistic Structure of French. (See French 411.)

415-3 Sociolinguistics. History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of department.

420-8 (4,4) Advanced Uncommon Languages. Advanced conversation and reading of third-year level materials in preparation for classes conducted in the language. (g to h) Vietnamese. Prerequisite: 410 or equivalent.

430-3 to 6 (3,3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

431-3 Structure of the English Verb. An analysis of the English verb system. Special study of the modals and non-finites.

440-1 to 6 (1 to 3 per topic) Topics in Linguistics. Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

442-3 Language Planning. Survey of the field of language planning: definitions and typologies, language problems, language treatment, attitudes and beliefs about language, relations between language planning process and other kinds of social and economic planning, linguistic innovations and other processes of language change, implementation of language policies. Prerequisite: 401, 402a.

445-4 Introduction to Psycholinguistics. (Same as Psychology 445.) Topics include methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain.

450-3 to 6 (3,3) Language Families. A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

453-4 Methods in Teaching English as a Second Language. Introduces the basic methods of teaching English as a second language, specifically as part of bilingual programs, and presents the theoretical premises and background from the fields of general linguistics, contrastive linguistics, psycholinguistics, education, and sociolinguistics. Prerequisite: undergraduate status.

454-2 Observation and Practice in TESL. Lessons in teaching English as a second language are modeled and demonstrated live and via video-tape. In addition to microteaching and other peer-teaching, students observe ESL/EFL classes and laboratories and do tutoring and practice teaching under supervision as schedulable. Enrollment limited to undergraduates. Prerequisite: 453 or concurrent enrollment or consent of department. Mandatory Pass/Fail.

455-2 Materials in TESL. Examination and criticism of currently used textbooks in ESL and bilingual education programs, as well as other printed materials and visual and mechanical aids in teaching English as a second language. Prerequisite: 453 or consent of department. Enrollment limited to undergraduates.

456-3 Contrastive and Error Analysis. Examination of the interference of other languages into the English of ESL learners on the levels of phonetics, phonology, morphology, syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors and development of techniques for correction. Prerequisite: 453 or consent of department. Enrollment limited to undergraduates.

489-1 Seminar in Developmental Psycho-Neurolinguistics. (Same as Communication Disorders and Sciences 489 and Psychology 489.) Seminar will explore current issues in the area of developmental psycholinguistics and neurolinguistics. Included will be normal language use and development, as well as disordered language use and development; foreign/second as well as first language will be included. Development will be interpreted to mean life-span. Prerequisite: consent of instructor.

497-1 to 8 Readings in Linguistics. Directed readings in selected topics. Prerequisite: consent of department and undergraduate status.

501-3 Approaches to the Analysis Error. Theory and methodology of contrastive analysis and error analysis. Application of both methodologies to comparison of English syntactic and phonological structures with those of other languages. Prerequisite: 401 or consent of department.

506-4 Historical Linguistics. Theories and methods in the study of the history and prehistory of languages and language families. Prerequisite: 405 and 406, or consent of department.

507-3 Pidgin and Creole Language. (Same as Anthropology 540.) Survey of the world's Pidgins and Creoles, with emphasis on the English-based Atlantic Creoles. Comparison of creolization with first and second language acquisition, and with the origin and evolutionary development of human language. Prerequisite: one previous course in linguistics or consent of department.

510-3 History of Linguistics. The history of linguistic inquiry from classical times to the present. Prerequisite: one previous course in linguistics or consent of department.

530-3 Pedagogical Grammar for the EFL/ESL Teacher. This course reviews basic grammatical structure of English from the perspective of the teacher of English as a foreign or second language. A variety of approaches are relied on in an attempt to develop accurate and effective insights into the nature of key features of English grammar. Individual projects allow students to explore applications to EFL/ESL materials and methods. Prerequisite: 401 and 570.

540-3 to 12 (3 per topic) Studies in Applied Linguistics. Selected topics in applied linguistics. (a) Research methods, (b) pragmatics, (c) other. May be repeated as topics vary to a total of 12 hours of credit with consent of department. Maximum of 6 hours applicable toward a basic master's degree. Prerequisite: one previous course in linguistics or consent of department.

541-3 Second Language Acquisition. A basic introduction to research in second language acquisition, including models, methods of investigation, and factors which affect language learning. Prerequisite: 570 or consent of department.

545-3 Advanced Seminar in Psycholinguistics. Relevant psycholinguistic research is studied in terms of research design criteria,

appropriateness of statistical procedures, and practical applications for language teaching/learning and teacher training. Prerequisites: 445 and prior or concurrent registration in EPSY 506, or consent of department.

546-3 Conversation Analysis. (See Speech Communication 546.) Prerequisite: consent of instructor.

548-3 Lexicography. An introduction to the art and craft of dictionary-making: differences between dictionaries and other reference works; history of dictionaries around the world; how dictionaries are produced, evaluated, selected, and used; bilingual vs. monolingual dictionaries in the teaching and learning of English and other languages.

550-4 to 8 (4 per topic) Seminar in Theoretical Linguistics. Guided advanced research in (a) syntax and semantics, (b) phonology, (c) sociolinguistics, (d) selected topics. Sections (a) through (c) may be taken only once each. Section (d) may be repeated as topics vary. Prerequisite: consent of department.

570-4 Theory and Methods of EFL/ESL. Theory and methods of teaching English as a second or foreign language, techniques and procedures in teaching most language skills, comparative and current methodology.

571-3 Language Laboratories in EFL/ESL. The theory and practice of the language laboratory in EFL/ESL pedagogy. Review and analysis of audio, video, and computer assisted devices applicable to second language teaching. Prerequisite: 570 or consent of department.

572-2 Materials Preparation in EFL/ESL. Theory and practice in development of EFL/ESL texts. Prerequisite: 570 or consent of department.

575-3 EFL/ESL Testing. Discussion of different second language (L2) testing purposes characteristics of good L2 tests, process of L2 test development, evaluation and revision of L2 tests, interpretation and reporting of L2 test results, current trends in L2 testing. Prerequisite: 570 or consent of department.

580-3 to 6 per semester Seminar in Special Problems of EFL/ESL. Selected topics in special problem areas of EFL/ESL. (a) Administration of intensive English programs, (b) teaching English abroad, (c) EFL for experienced foreign teachers, (d) teaching reading in EFL/ESL, (e) selected topics. Sections (a) through (d) may be taken only once each. Section (e) may be repeated as topics vary. Prerequisite: 570 or consent of department.

581-2 Practicum in EFL/ESL: Oral English. Class observation and supervised practice teaching in English as a foreign language; meets concurrently with LING 100. Prerequisite: 570 or concurrent enrollment or consent of department.

582-3 Notional/Functional Syllabus. The course examines theory and applications of the "notional-functional syllabus" in second language teaching, including pragmatics, textbook analysis, materials and development, and the relationship of notional and structural syllabi.

583-3 Innovative Methods in EFL/ESL.

Analysis of the most important methodologies in teaching EFL/ESL, including silent way, counseling-learning/CLL, suggestopedia, comprehension training, and total physical response. Prerequisite: 570 or permission of instructor.

584-3 Teaching of EFL/ESL Composition. Analysis of current theories of composition in a second language, research on nature of the writing process, and applications of research for the teaching of writing in a second language. Prerequisite: 570 or consent of instructor.

585-3 Practicum in EFL/ESL: Written English. Objectives, methods, and materials for LING 101 and 105 and similar courses. Observation and practice under supervision. Prerequisite: consent of department.

593-1 to 4 Research in Linguistics. Individual research under graduate faculty guidance. Prerequisite: consent of instructor.

596-3 Stylistics. (See English 596.)

597-1 to 8 Readings in Linguistics. Individual readings in linguistics under graduate faculty guidance. Prerequisite: consent of department.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Management

(See Business Administration.)

Manufacturing Systems

510-3 Recent Advances in Quality Assurance. Study of recent advances in quality planning, quality measurement, design assurance, process control, participatory management, supplier quality, customer relations, and improvement concepts. Prerequisite: IT 475.

520-3 Computer-Aided Manufacturing II. Advanced study of the use of computers in the manufacture of products. Emphasis is placed on CAD/CAM integration, CAM generated data, and current CAM languages. Prerequisite: IT 445.

525-3 Computer Integrated Manufacturing. Theory and practice of using the computer to integrate the functional manufacturing areas into an effective system. Use of applica-

tions software is emphasized. Prerequisite: IT 445 and 475.

530-3 Mechanical Aspects of Robots. Advanced application of mechanics, mechanisms, hydraulics, pneumatics, strength of materials, and machine design to robotics. Prerequisite: IT 455.

535-3 Computer Control of Manufacturing Systems. Application of computer technology to the control of manufacturing equipment, processes, and systems. Emphasis is placed on the hardware aspects from an overall systems viewpoint. Prerequisite: IT 455.

545-3 Electrical and Electronic Aspects of Robots. Analysis of servo motors, actuators, sensors, and noise and feedback technique that drive robot manipulators. Prerequisite: IT 455.

560-3 Automated Factory. Advanced study of the integration of robots, automated assemble, automated storage and retrieval systems, automated inspection, and computer-controlled transfer systems. Economic justification and implementation are emphasized. Prerequisite: 520, IT 455.

580-1 to 4 Seminar. Collective and individual study of issues and problems related to manufacturing systems.

585-3 Research Methods. Study of research methods in manufacturing including the development of proposals, the use of statistics in the analysis, and communication of results. Prerequisite: MATH 458.

592-1 to 4 Special Investigations in Manufacturing Systems. Advanced topics in manufacturing systems. Topics are selected by mutual agreement of the student and the instructor. Prerequisite: consent of adviser.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Marketing

(See Business Administration.)

Mathematics

400-3 History of Mathematics. An introduction to the development of major mathematical concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal

Arts or in the College of Science. Prerequisite: 319 and 352, or consent of instructor.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 306.

406-3 Eigenfunction Analysis. Discrete and continuous models for the vibrating string; separation of variables and eigenfunction analysis; inner product spaces; operators on inner product spaces; the spectral theorem for Hermitian operators on finite dimensional spaces with applications; the Courant-Fischer max-min characterization of eigenvalues; the spectral theorem for compact Hermitian operators with applications to Sturm-Liouville boundary value problems and Fredholm integral equations. Prerequisite: 221 and 305.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle, Poisson's integral, fundamental solution of the heat equation. Prerequisite: 251, 305.

409-3 Introduction to Fourier Analysis. The Fourier synthesis and analysis equations for functions on the real line, the circle, the integers, and the regular N -gon; convolution; techniques for finding Fourier transforms; operators associated with Fourier analysis; the FFT and FHT algorithms and fast convolution; generalized functions; to probability, partial differential equations, linear systems, and numerical analysis. Prerequisite: 221 and 305.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

417-3 Applied Matrix Theory. Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted toward a graduate degree in mathematics. Prerequisite: 139 or 221 or consent of department.

419-3 Introduction to Abstract Algebra II. Solvable groups, maximal ideals, basic and dimension, elementary field extension theory, splitting fields, geometric constructions, ele-

mentary Galois theory, Galois group of a polynomial, solution of equations in radicals. Prerequisite: 319 or consent of instructor.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department.

433-3 Introduction to Topology. Study of continuity, convergence, compactness, and completeness in the context of metric spaces. Prerequisite: 352 or consent of department.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in \mathbb{R}^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 251 and 221.

447-3 Introduction to Graph Theory. (Same as Computer Science 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cutpoints, Eulerian graphs, trees, cycle and co-cycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 221 and 319 or CS 315.

449-3 Introduction to Combinatorics. (Same as Computer Science 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 319, or CS 315, or consent of department.

450-3 Methods of Advanced Calculus. Sequences and series of functions; partial differentiation; Jacobians; the implicit function theorem; the classical differential operators in general curvilinear coordinates; line, surface, and volume integrals, the divergence and Stokes' theorems; transformation of variables in multiple integrals; integrals containing a parameter. Prerequisite: 251.

452-3 Introduction to Analysis. A rigorous development of one-variable calculus concepts including the real numbers, sets, limits of sequence, continuity of functions, differentiation, Riemann-Stieltjes integration, series of functions. Prerequisite: 251.

455-3 Introduction to Complex Analysis and Applications. Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series, Laurent series, polar and essential singularities, analytic continuation, contour integration, residue theorem, conformal mapping. Prerequisite: 251.

457-3 Methods of Quantitative Analysis. (Same as Business Administration 451.) Introductory survey of basic quantitative methods necessary for graduate study in business; designed for students with deficiencies in methods of quantitative analysis. Course consists of introduction to calculus, matrix algebra, and probability. Extensive use is made of business examples. Prerequisite: enrollment in Master of Business Administration program or consent of department; MATH 108 or equivalent.

458-3 Statistical Methods in Business. Descriptive statistics, probability distributions, statistical estimation and hypothesis testing with business applications, chi-square tests, linear regression, analysis of variance, index numbers, interpretation of computer output. Prerequisite: 457 or BA 451 or equivalent and graduate standing in the College of Business and Administration.

460-3 Transformation Geometry. Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319.

471-3 Introduction to Optimization Techniques. (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250, CS 202.

472-3 Linear Programming. (Same as Computer Science 472.) Nature and purpose of the linear programming model. Development of the simplex method. Applications of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 221 and CS 202.

473-3 Reliability Theory. Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: 480 or 483.

475-6 (3,3) Numerical Analysis. (Same as Computer Science 464.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Prerequisite: (a) 221, 250 and a working knowledge of FORTRAN; (b) 305 and 475a.

480-4 Introduction to Probability. This is a comprehensive introduction to probability theory at a level suited to upper division undergraduates and first year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic func-

tions, inversion formulas, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers. Prerequisite: 251.

481-3 Elements of Stochastic Processes. An introduction, including normal, Poisson, and Markov processes. Prerequisite: 380 or 480.

483-4 Mathematical Statistics in Engineering and Physical Sciences I. Introduction to statistical theory with applications in engineering and the physical sciences. Probability: axioms, distributions including noncentral distributions, moments and moment generating functions, order statistics. Statistical inference: point and interval estimation, testing hypotheses, likelihood ratio tests. Prerequisite: 250.

484-4 Mathematical Statistics in Engineering and Physical Sciences II. An introduction to linear models and the design of experiments with applications in engineering and the physical sciences. Analysis of the general linear model, basic designs and criteria, response surface analysis, and factor analysis. Statistical computation. Prerequisite: 221, 483, or consent of instructor.

485-3 Applied Statistical Analysis. Elements of survey sampling including simple random and stratified sampling, ratio and regression estimates; elements of nonparametric methods including the sign, Wilcoxon and Kruskal-Wallis tests; analysis of categorical data including loglinear models. Prerequisite: 480, or 483, or consent of instructor.

495-1 to 6 Special Topics in Mathematics. Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chair and instructor.

501-3 Real Analysis. Structure of sets of real numbers; Lebesgue measure; measurable functions; integration; convergence theorems; functions of bounded variation; absolutely continuous functions; L_p spaces; general measure spaces; radon-Nikodym theorem; product measures and Fubini's theorem. Prerequisite: 452.

502-3 Modern Analysis. Banach spaces; bounded operators; Baire category theorem and its consequences; dual spaces; Hahn-Banach theorem; Hilbert spaces, Riesz representation theorem; Frechet derivatives; function spaces. Prerequisite: 501.

505-3 Ordinary Differential Equations. Existence and uniqueness theorems; general properties of solutions; linear systems; geometric theory of nonlinear equations; stability; self-adjoint boundary value problems; oscillation theorems. Prerequisite: 452 and 421 or consent of instructor.

506-1 to 12 Advanced Topics in Ordinary Differential Equations. Selected advanced topics in ordinary differential equations chosen from such areas as: stability, oscillations, functional differential equations, perturbations, limit point and limit circle, boundary value problems. Prerequisite: consent of instructor.

507-3 Partial Differential Equations. Origins of PDE's. The wave equation, potential equation, and heat equation. Initial and boundary value problems and questions of well posedness. Fundamental solutions and the related Riemann, Green, and Neumann functions. Classification of linear and quasilinear PDE's. Theory of characteristics. The Cauchy-Kowalawski theorem. The max-min principle, the energy-integral method, and questions of uniqueness. Questions of existence. Prerequisite: 407 and 501.

508-3 Integral Equations. Origins of integral equations. Volterra equations of the first and second kind. Fredholm equations of the first and second kind. Fredholm's alternative theorem. The resolvent equation. Orthonormal eigensystems of a symmetric Fredholm operator. The Hilbert-Schmidt expansion theorem and its applications to Sturm-Liouville problems. Exact and approximation methods of solution. Prerequisite: 452 and 406 or 421.

511-3 Modern Approaches to Teaching Secondary School Mathematics. (Same as Curriculum and Instruction 529.) Topics include problemsolving application of mathematics and the teaching of proofs in secondary school mathematics. Practical classroom use of materials will be emphasized. Credit is not applicable to a graduate program in mathematics. Prerequisite: consent of instructor.

516-8 (4,4) Statistical Analysis in the Social Sciences. (a) Descriptive statistics; graphic display of data; concepts of probability; statistical estimation, and hypothesis testing. Applications to social science data. (b) Matrix algebra; general linear model; multivariate statistics, ordinal and nominal measures of associations, and causal modeling. Applications to social science data. This course does not give credit toward a mathematics major. Prerequisite: one year of high school algebra or equivalent.

519-3 Algebraic Structures I. Groups, subgroups, normal subgroups and homomorphism theorems, permutation groups, finite direct products, finite abelian groups, p -groups and Sylow's theorems, normal and subnormal series, Jordan-Holder theorem. Rings and subrings, divisibility theory in integral domains, polynomial rings. Prerequisite: 419 or consent of department.

520-3 Algebraic Structures II. Algebraic field extensions; splitting fields, algebraic closure, separable and inseparable extensions; finite fields; norms and traces, the fundamental theorem of Galois theory. Free modules, torsion modules, tensor products of modules, finitely generated modules over principal ideal domains, application of abelian groups. Prerequisite: 519.

522-1 to 12 Advanced Topics in Algebra and Number Theory. Selected topics in modern algebra and number theory chosen from such areas as: group theory, commutative algebra, non-commutative algebra, field theory, representation theory, analytical number theory, algebraic number theory, additive number theory. Diophantine approximations,

Dirichlet series, and automorphic form. Prerequisite: consent of instructor.

525-3 Number Theory. Introduction to modern analytic and algebraic techniques used in the study of quadratic forms, the distribution of prime numbers, diophantine approximations, and other topics of classical number theory. Prerequisite: 425.

530-3 General Topology. Topological spaces, continuous functions, product topology, convergence, separation and countability, compactness, connectedness, local properties, metrizable, compact-open topology. Prerequisite: 433, 452.

531-3 Algebraic Topology. Simplicial complexes. Simplicial approximation. Chain complexes. Simplicial homology. Singular homology. Applications to spheres and Euclidean spaces. Universal coefficient theorem. Cohomology. Prerequisite: 419, 433, or 530.

532-1 to 12 Advanced Topics in Topology and Geometry. Selected advanced topics in topology and geometry chosen from such areas as: metrization, topological groups, uniform spaces, homotopy theory, covering spaces, fixed point theory, Poincare duality, differential topology, categorical topology, ordered topological spaces, complex manifolds, fibre bundles, vector bundles, sheaf theory, differential geometry, Morse theory, relativity. Prerequisite: consent of instructor.

536-3 Differential Geometry. Basic manifold theory, linear connections, Riemannian geometry, DeRham cohomology, applications. Prerequisite: 421, 433 or 435.

549-3 Combinatorial Theory. Graph theory: review of basic concepts, algebraic graph theory, trees, planarity, Ramsey's theorem, factorizations. Block designs: balanced incomplete block designs, finite geometries, triple systems, arrays. Introduction to algebraic coding theory. Introduction to modern cryptography. Prerequisite: 499 or consent of department.

551-3 Functional Analysis. Topological vector spaces; weak topologies; bounded and unbounded operators in Hilbert space; spectral theory; distributions; Sobolev spaces; normed rings; normed algebras. Prerequisite: 502.

553-1 to 12 Advanced Topics in Analysis and Functional Analysis. Advanced topics in analysis and functional analysis from such areas as: harmonic analysis, approximation theory, integration theory, advanced complex variables, topological vector spaces, operator theory, Banach algebras, distribution theory. Prerequisite: consent of instructor.

555-3 Complex Variables. Extended complex plane; Cauchy-Riemann equations: conformality; analytic continuation; power series; elementary functions; Cauchy integral theorem and consequences; Cauchy integral formula; maximum modulus principle; Liouville's theorems; Laurent expansion; residue theorem and evaluation of real integrals; principle of argument; Rouché's theorem. Prerequisite: 452.

560-3 Calculus of Variations. The basic

problems of calculus of variations. The classical necessary conditions and their application. Canonical form of the Euler-Lagrange equations and Hamilton's principle. Fields and sufficient condition. Pontryagin's necessary condition and its application to control theory and to the classical problems of the calculus of variations. Prerequisite: 452.

566-3 Introduction to Continuum Mechanics. A rigorous development of continuum mechanics including: elements of tensor analysis; kinematics; balance of mass, linear momentum, and angular momentum; the concept of stress; constitutive equations for fluid and solid bodies; the principle of frame indifference. Prerequisite: 450 or 452 and one of 406, 421, 435.

569-1 to 12 Advanced Topics in Applied Mathematics. Selected advanced topics in applied mathematics chosen from such areas as: continuum mechanics; electromagnetic theory; control theory; mathematical physics. Prerequisite: consent of instructor.

570-1 to 12 Advanced Topics in Optimization. Selected advanced topics in optimization and operations research chosen from such areas as: calculus of variations, optimal control theory, nonlinear programming, convex analysis, nonsmooth analysis, new flows, advanced computer simulation, large scale linear programming. Prerequisite: consent of instructor.

572-1 to 12 Advanced Topics in Numerical Analysis. (Same as Computer Science 564.) Selected advanced topics in numerical analysis chosen from such areas as: approximation theory, numerical solution of initial value problems; numerical solution of boundary value problems, numerical linear algebra, numerical methods of optimization, functional analytic methods. Prerequisite: consent of instructor.

575-3 Matrix Computations. An introduction to modern numerical linear algebra including: vector and matrix norms; Householder, Givens, and Gauss transforms; factorization methods for solving systems of linear equations with roundoff error analysis; QR and SVD methods for solving linear least squares problems; the QR algorithm for computing the eigenvalues of a matrix. Prerequisite: 475a and one of 406, 421.

580-3 Statistical Theory. An introduction to mathematical statistics. Estimation theory including such topics as the Cramer-Rao and Chapman-Robbins inequalities, and the Rao-Blackwell theorem. Testing hypotheses with emphasis on the monotone likelihood ratio and the exponential family. A short introduction to Bayes and other decision procedures. Prerequisite: 480 or both 483 and 452.

581-3 Probability. General probability spaces, review of measure and integration; product spaces, product measures, Fubini's theorem. Probability and random variables: induced measures, distribution functions, expectations, types of convergence, independence, characteristic functions. Sums of independent random variables: tail events and tail

functions; Borel Cantelli lemma, zero-one law; Kolmogorov's inequality, convergence of series, the Strong Law of Large Numbers. Prerequisite: a concurrent course in real variables (501).

582-1 to 6 Advanced Topics in Probability. Selected advanced topics in probability chosen from such areas as: martingales, Markov processes, Brownian motion, infinitely divisible laws. Prerequisite: consent of instructor.

583-1 to 6 Advanced Topics in Statistics. Selected advanced topics in statistics chosen from such areas as: advanced linear models, advanced experimental design, multivariate statistical analysis, decision theory, advanced nonparametric theory. Prerequisite: consent of instructor.

585-1 to 2 Statistical Consulting. Consulting with university researchers under the supervision of a member of the statistics faculty. A writeup of each consultation will be required. Prerequisite: 484 or 489 and consent of instructor.

590-1 to 6 Contemporary Mathematics Research. Lectures on various mathematical topics of current research interest by members of the department and by distinguished visitors. Prerequisite: consent of the graduate adviser.

592-1 to 6 Advanced Topics in Mathematics for Teachers. (a) Algebra; (b) geometry; (c) analysis; (d) probability and statistics; (e) discrete mathematics. Credit not applicable to graduate program in mathematics.

595-1 to 12 per topic Special Project. An individual project, including a written report. (a) In algebra; (b) in geometry; (c) in analysis; (d) in probability and statistics; (e) in mathematics education; (f) in logic and foundations; (g) in topology; (h) in applied mathematics; (i) in differential equations; (j) in number theory. Graded S/U only. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Minimum of three hours to be counted toward the Master of Arts degree.

600-1 to 30 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Mechanical Engineering and Energy Processes

(See Engineering.)

Medical Education Preparation

No graduate degree program is offered through medical education preparation. Four-hundred-level courses may be taken for graduate credit only with written permission of the relevant department and the graduate dean.

400-1 to 6 (1 per semester) Medprep Seminar. Seminar on social, professional, and scientific issues of interest to students planning a career in medicine or dentistry. Topics: (a) orientation; (b) medical/dental seminar. Required of medprep participants. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to medprep students. Must be taken in a, b sequence. Mandatory Pass/Fail.

401-1 to 20 (1 to 2 per area) Medprep Basic Skills. Focus on skills critical for academic success in preprofessional and professional training areas: (a) learning skills; (b) science process skills; (c) quantitative skills; (d) perceptual motor skills; (e) interpersonal skills; (f) reading skills; (g) written communication skills; (h) vocabulary skills; (i) speed reading; (j) other. All areas required or proficiency demonstrated with the first year in program. Not for graduate credit. Prerequisite: restricted to medprep students. Areas c, e, f, g, and i are Mandatory Pass/Fail.

402-1 to 12 (1 to 2 per topic) Medprep Special Problems. Seminars, workshops, lectures, and field experiences related to preparing the student for medical/dental school and careers in medicine or dentistry. Topics: (a) MCAT/DAT orientation; (b) research seminar; (c) clinical experience; (d) independent research; (e) independent readings; (f) other. Topic (b) required of all medprep participants. May be taken for graduate credit only with written permission of the relevant department and graduate dean. Prerequisite: restricted to medprep students. Topic (c) mandatory Pass/Fail.

403-1 to 15 (1 to 2, 1 to 2, 1 to 2, 1 to 2, 1 to 2, 1 to 3) Medprep Biology Tutorial. Depending on individual need content will be remedial, supplementary to concurrent biological science courses, or additional permitting acceleration. Sections will be (a) genetics; (b) anatomy, (c) physiology, (d) embryology, (e) microbiology, (f) zoology, (g) special. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to medprep students or consent of instructor.

404-1 to 14 (1 to 2, 1 to 2, 1 to 2, 1 to 2, 1 to 3, 1 to 3,) Medprep Chemistry Tutorial. Depending on individual need content will be remedial; supplementary to concurrent pre-professional chemistry courses (CHEM 222a,

b; 334 and 346; and 450) or additional permitting acceleration. Sections will be (a, b) inorganic; (c, d) organic; (e) biochemistry; (f) other. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to medprep students.

405-1 to 4 (1 to 2, 1 to 2) Medprep Physics Tutorial. Depending on individual need content will be remedial, supplementary to concurrent preprofessional physics courses or additional permitting acceleration. Sections will correspond to two semester physics sequence. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to medprep students.

Microbiology

403-3 Medical Bacteriology Lecture. A survey of the mechanisms of infection, epidemiology, and immunity and the specific application of these principles to the symptomatology, diagnosis, treatment, and control of the more common bacterial infections of humans. Three hours lecture. Fall semester. Prerequisite: 301.

404-2 Medical Bacteriology Laboratory. Procedures for the collection and handling of medical specimens for microbial examination and for cultivation and identification of the pathogenic organisms by their morphological, biochemical, and serological characteristics and the fundamental role of the bacteriologist in the diagnosis of infectious diseases. Four hours laboratory. Fall semester. Prerequisite: 403 or concurrent enrollment.

421-3 Biotechnology. Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Prerequisite: 302.

422-2 Foods and Industrial Microbiology Laboratory. Methods for preparation, preservation, sanitary inspection, and analyses of foods and industrial products. Four hours laboratory. Prerequisite: 421 or concurrent enrollment.

425-3 Biochemistry and Physiology of Microorganisms Lecture. Chemical composition, cellular structure, and metabolism of microorganisms. Prerequisite: organic chemistry.

426-2 Biochemistry and Physiology of Microorganisms Laboratory. Laboratory course to study techniques for investigating the chemical composition, cellular structure, and metabolism of microorganisms. Prerequisite: 425 or concurrent enrollment; organic chemistry.

441-3 Virology Lecture. General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected vi-

ral diseases of animals. Prerequisite: 301 and 302.

442-2 Virology Laboratory. Tissue culture methods, multiplication and assay of animal and bacterial viruses, purification, electron microscopy, interference, immunity. Five hours laboratory. Prerequisite: 441 or concurrent enrollment.

451-3 Immunology Lecture. Natural and acquired immunity. Antigens, antibodies, and antigen-antibody reactions in vitro and in vivo. Three hours lecture. Prerequisite: 403.

452-2 Immunology Laboratory. Natural defense mechanism and immune response, preparation of antigens and antibodies, serological reactions, conjugated antibodies, electrophoresis, immunological reactions in vivo. Five hours laboratory. Prerequisite: 451 or concurrent enrollment.

453-3 Clinical Microbiology and Immunology Lecture. Lectures dealing with the fundamentals and clinical applications of microbiology and immunology and the properties, pathogenesis and control of bacterial, viral, and mycotic infections in people. Three hours lecture. No limit on enrollment. Prerequisite: 403, 441, and 451.

454-2 Clinical Microbiology and Immunology Laboratory. Methods and procedures in the clinical diagnosis of microbiologic and immunologic diseases in people. Four hours laboratory. Enrollment limited to 12. Prerequisite: 404, 442, and 452, consent of instructor, and 453 or concurrent enrollment.

460-3 Genetics of Bacteria and Viruses Lecture. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Three hours lecture. Prerequisite: 301.

461-3 Genetics of Bacteria and Viruses Laboratory. Use of bacteria, plasmids, and viruses in transduction, genetic mapping, transposon mutagenesis and the construction of gene fusions. Performing in vitro DNA manipulations such as restriction enzyme mapping, construction of gene libraries, and subcloning. Six hours laboratory. Prerequisite: 460 or concurrent enrollment.

470-3 Prokaryotic Diversity. A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and biochemistry. Prerequisite: 301 or equivalent and one year of organic chemistry.

471-2 Prokaryotic Diversity Laboratory. Principles of bacterial nutrition, preparation of microbial growth media, enrichment, isolation and characterization of aerobic and anaerobic bacteria from natural habitats. Five hours laboratory, one week. Prerequisite: 470 or concurrent enrollment.

490-1 to 3 Undergraduate Research Participation. Investigation of a problem either individually or as part of a research group under the direction of a member of the faculty. Not for graduate credit. Prerequisite: 3.0 grade point average in microbiology and consent of instructor.

500-1 Seminar. Microbiology departmental seminar. Graded *S/U* only. Prerequisite: graduate standing.

501-1 Pre-Professional Training. A one hour course designed to formally introduce students coming into the microbiology program to the research, teaching, and support facilities available in Carbondale and at Springfield. Prerequisite is acceptance into the microbiology graduate program. This course will be required in addition to all Graduate School course and hour requirement. Graded *S/U* only.

504-3 Methods of Microbiological Research. Problem definition, experimental design, and research methods in specific areas of microbiology. Lecture and laboratory hours to be arranged.

505-1 Special Topics in Microbiology. Discussion of current research in specific areas of microbiology. One hour of group discussion per week. Prerequisite: consent of instructor.

511-1 to 66 (1 to 12 per semester) Research. Graded *S/U* only. Prerequisite: consent of instructor.

520-2 Advanced Microbial Physiology and Control Mechanisms. The physiology, biochemistry, and genetics of microbial regulatory mechanisms. Topics include transport phenomena, catabolite and nitrogen repression, the stringent response, and autoregulatory phenomena. Two lectures per week. Prerequisite: 425a and b, or CHEM 451a and b, or permission.

528-1 to 3 Readings in Microbiology. Supervised readings for qualified graduate students. Prerequisite: consent of instructor.

530-3 Advanced Cellular Biology. An advanced course based on current literature concerning the cellular biology of eukaryotes. Both students and faculty will make presentations followed by discussion. Topics will include: the cellular and subcellular structure and function of the lower eukaryotes, the biochemistry and biophysics of eukaryotic membrane systems, and the higher subcellular functions of mammalian cells. Prerequisite: 400 level course in genetics and in biochemistry or consent of instructor.

540-3 Advanced Virology. Interactions between bacterial and animal viruses and their host cells; sequential synthesis of macromolecular components of viruses; synthesis of interferon; experimental carcinogenesis; genetic recombination among viruses. Three hours lecture. Offered in alternate years with 542. Prerequisite: 441.

542-3 Molecular Virology. Interactions at the molecular level between tumorigenic and nontumorigenic DNA and RNA viruses and host cells, biochemical analysis of the growth cycle, uncoating, synthesis of virus-specified messenger RNA, enzymes and structural proteins, replication of viral nucleic acid and maturation. Three hours lecture. Offered in alternate years with 540. Prerequisite: 441.

543-3 Host-Microbial Interactions. A lecture course that deals in depth with mechanisms of symbiosis and other interactions with respect to the biochemistry of microbe and host. Immunological aspects are discussed. Emphasis is placed on molecular

mechanisms. Offered alternated years. Prerequisite: 403 or consent of instructor.

551-3 Advanced Immunology. A lecture course that intensively considers the most recent developments in antibody structure, antigenic analysis, and antigen-antibody reactions. A special focus will be on the use of immunology as a research tool. Prerequisite: 451 and 452, or equivalent, or consent of instructor.

552-2 Cellular Immunology. A lecture-discussion course covering contemporary aspects of cellular immunology. The cellular nature of immune responses as well as current information on the regulation of such responses will be considered. Topics will include cellular components of an immune response; receptors, recognition and signals; cellular cooperation; immunoregulation; and tolerance and autoreactivity. Prerequisite: 451 and 452, or equivalent, or consent of instructor.

553-4 Advanced Medical Microbiology and Immunology. A laboratory/lecture course providing an indepth analysis of the mechanisms of pathogenesis of bacterial, viral, and mycotic infections. Immune mechanisms involved in recovery from infection, development of an immune state, and infection-mediated immunopathology will be covered. Three hours lecture and two hours of laboratory per week. Prerequisite: 403 and 451, their equivalent, or consent of the instructor.

562-3 Molecular Genetics. A lecture and discussion course emphasizing current research and new techniques in replication, transcription, translation, genome organization, gene flow from a general systems viewpoint and regulation. Prerequisite: 400-level course in genetics and in biochemistry or consent of instructor.

599-1 to 3 Thesis. Prerequisite: consent of instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Mining Engineering

400-3 Principles of Mining Engineering. Basic principles of mineral exploration, development, and processing. Environmental problems related to mineral development. Prerequisite: junior standing in engineering.

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits.

Prerequisite: 400 or consent of instructor.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: 320, 400, GEOL 390.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-2 Mine Power Systems. Study of electrical, hydraulic, and pneumatic mine power systems. Selection and design of power systems and their components. Related economics and decision making criteria. Prerequisite: 410, and ENGR 385, or equivalent, or consent of instructor.

415-3 Surface Mining and Land Reclamation. Surface mining systems for coal and non-coal minerals. Development of mining operations, equipment selection, mine planning and design, land reclamation, erosion and sedimentation control. Prerequisite: 320, 400, and GEOL 390.

420-3 Mineral and Coal Processing. Impurities in coal and their impact on the market. Impurities liberation and separation methods. Product preparation. Coal washability characteristics. Flow sheet development. Recovery of minerals from tailings, slurry ponds, and mine waste. Economics of mineral processing. Two lectures and one laboratory per week. Prerequisite: 400 and GEOL 390.

425-3 Mine Ventilation Systems Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Two lectures and one laboratory per week. Prerequisite: 410 and ENGR 313.

431-3 Rock Mechanics and Ground Control. Analysis of stress and strain, elementary elasticity, stress distribution around mine openings and pillars, engineering properties of rocks, support of mine workings, subsidence, design of mine openings. Laboratory. Prerequisite: 410 and ENGR 311.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: 410, 415, ENGR 222, 361.

440-3 Design of Material Handling Systems. Study of material handling and waste disposal methods. Material handling systems selection. Systems design and development. Material handling economics. Prerequisite: 410 and concurrent enrollment in 415 or ENGR 361.

455-2 Mine Health and Safety Engineering. Analysis of mine hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods, and health hazard control plans. Prerequisite: 410 and 415.

460-3 Underground Mine Design

Projects. Projects in planning and design of underground mining systems. Evaluate a potential mine site; select appropriate mining method; define and design mine subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to closure. One lecture and two two-hour laboratories per week. Prerequisite: 450 or concurrent enrollment.

465-3 Computer-Aided Surface Mine Design Projects. Projects in planning and design of surface mining systems. Evaluate a potential mine site; select appropriate mining method; define and design mining and reclamation subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to bond release. One lecture and two two-hour laboratories per week. Prerequisite: 415, 420, 431, 440.

470-3 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Two lectures and one laboratory per week. Prerequisite: 431.

475-3 Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels, and underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 415 and 431.

492-1 to 5 Special Problems in Mining Engineering. Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

511-3 Advanced Ground Control. Ground control in viscoelastic, plastic, and jointed rocks, artificial rock stabilization, in-situ stresses, minimizing structural damage due to subsidence, bumps, and rock bursts. Prerequisite: 431 or consent of instructor.

519-2 Advanced Mine Environment and Pollution Control. Study of the design of coal dust control plan; methane control. Design of mine illumination system, noise control, and water pollution control. Prerequisite: 410, 415.

530-3 Mine Management. Study of basic management principles, labor relations, and coal wage agreement. Costing methods and cost control. Operations organization and performance analysis. Prerequisite: consent of instructor.

535-3 Rock Fragmentation. Principles of rock fragmentation, cutting and drilling, mechanics of rock penetration, drillability indices, use of explosives in rock fragmentation, design of blasing patterns in surface and underground mines, prevention of airblast and noise due to blasting, chemical fragmentation. Prerequisite: 415, 431, or consent of instructor.

540-3 Production Engineering in Coal Mines. Operations analyses of production cycles in surface and underground coal mining systems, mine planning and design using computer models, computer simulation, economic analysis of mining systems. Prerequisite: 435 or consent of instructor.

545-3 Tunnelling. Tunnelling through consolidated and unconsolidated geologic materials—cut and cover, drilling and blasting, and rapid excavation tunnelling techniques. Classification systems for geologic materials, hydrological investigations, tunnel linings—types, requirements, and their design. Instrumentation. Prerequisite: 431, or equivalent, or consent of instructor.

580-1 to 2 Seminar. Collective and/or individual studies in coal extraction or utilization.

592-1 to 5 Special Investigations. Special studies of coal extraction or utilization problems.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Molecular Science

592-1 Colloquy in Molecular Science. Required each semester of all resident students who have been admitted to advanced study in molecular science. Weekly conference on current research and recent literature of the field.

597-2 to 30 Selected Topics in Molecular Science. Prerequisite: consent of instructor.

598-2 to 16 Special Projects in Molecular Science. Prerequisite: admission to the molecular science doctoral program and consent of instructor. Graded *S/U* only.

600-1 to 36 (1 to 12 per semester) Dissertation. Hours and credit to be arranged by the chair. Prerequisite: admission to advanced study in molecular science.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Music

Courses in this department may require

the purchase of music literature and other incidental supplies.

400-1 to 2 (1,1) Performance Techniques.

Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

407-2 Modal Counterpoint. Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

414-1 to 8 (1 to 2 per semester) Collegium Musicum. For experienced singers and instrumentalists. Emphasis upon practical study of historical music literature of the Medieval Renaissance, and Baroque eras.

420-1 to 2 (1,1) Instrument Repair. A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments.

421-2 Advanced Analysis. Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.

430-1 Jazz Arranging. Methods of scoring for popular groups. Practice in scoring arrangements and/or original compositions for jazz ensembles. Prerequisite: 335a and b or consent of instructor.

440-1, 2, or 4 Applied Music. Applied music for graduate credit is offered at the 400 and 500 levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Student must attend both the weekly studio class in addition to performance as scheduled on Fridays at 10 &am Student must be concurrently enrolled in one of the performance groups. Prerequisite: for 440, 540: two semesters of *B* or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Mondays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits taking two half-hour private lessons and the studio class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice **per** week required for each lesson. For shorter terms, credit is reduced or lesson time is increased proportionately.

- | | | |
|--------------|----------------|----------------|
| a. Flute | i. Baritone | q. Piano |
| b. Oboe | j. Tuba | r. Organ |
| c. Clarinet | k. Percussion | s. Harpsichord |
| d. Bassoon | l. Violin | t. Guitar |
| e. Saxophone | m. Viola | u. Recorder |
| f. Horn | n. Cello | v. Coaching |
| g. Trumpet | o. String Bass | |
| h. Trombone | p. Voice | |

447-4 (2,2) Electronic Music. (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available.

(b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a, b sequence. Prerequisite: 280, or GE-A 361, or consent of instructor.

453-2 to 4 (2 per semester) Advanced Topics in Choral Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music. Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. Designed for experienced teachers and advanced students.

456-4 (2,2) Music for Exceptional Children. (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, guitar, and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.

461-3 Applied Music Pedagogy. Specialized problems and techniques employed in studio teaching of any particular field of musical performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.

468-2 to 4 (2,2) Music Productions. Practicum in the techniques for staging operas and musicals.

472-2 Chamber Music Literature. A study of literature for the principal types of chamber music groups.

475-3 Baroque Music. The development of vocal and instrumental music in the period 1600 to 1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: 357A with a grade of *C* or better, or graduate standing.

476-3 Classical Music. Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: 357B with a grade of *C* or better, or graduate standing.

477-3 Romantic Music. Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: 357B with a grade of *C* or better, or graduate standing.

479-2 to 4 (2 per topic) Solo Performance Literature. Topics presented will depend upon the needs of students and upon instructors scheduled. Areas: (a) piano literature, including an introductory study of harpsichord music; (b) organ literature, in relation to the history of the instrument; (c) song literature; (d) guitar and lute literature; (e) solo string literature; (f) solo wind literature.

480-2 to 4 (2,2) Advanced Composition. Original composition involving the larger media. Individual instruction. Prerequisite: two semesters of 380 with a grade of C or better and approval of composition jury.

481-1 to 4 Readings in Music Theory. Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hour's preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

482-1 to 4 Readings in Music History and Literature. Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours of preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

483-1 to 4 Readings in Music Education. Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: consent of instructor.

498-2 to 4 (2,2) Recital. Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 Independent Study. Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Not more than three hours toward 30 required for graduate degree.

500-1 to 6 Independent Investigation. An opportunity for the graduate student to investigate at an advanced level special interests outside the scope of normal course offerings. The student will select a member of the graduate faculty to guide and evaluate the work. Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of the selected instructor and student's graduate adviser.

501-3 Music Bibliography and Research. Bibliographic materials for graduate study in music theory, history, education, and music performance. Practical experience in research techniques and scholarly writing style. Recommended to be taken during the first semester of graduate study. Required of all degree programs.

502-4 (2,2) Analytic Techniques. Analysis of representative works chosen from the Baroque, Classical, Romantic, and Modern eras. Prerequisite: graduate standing in music or prior consent of instructor.

503-3 Scientific Evaluation and Research in Music. Quantified research concepts and vocabulary; measurement theory and techniques for evaluating and testing musical aptitude and achievement; investigation of acoustical perception; survey of current scientific research in music. A research project is required.

509-2 History and Philosophy of Music Education. The evolution of school music and its changing relationship to the individual, to society, and to the school curriculum.

535-2 Contemporary Idioms. An analysis of major compositional techniques since 1945. Prerequisite: 502b or consent of instructor.

540-1, 2, or 4 Applied Music. (See Music 440.)

545-3 Pedagogy of Music Theory. An orientation to the philosophy of theory with application to teaching techniques. Prerequisite: consent of instructor.

550-2 School Music Administration and Supervision. Study of the objectives and processes of music instruction. Administration roles in developing the means and ends of music instruction, and techniques employed for the improvement of instruction.

556-2 to 4 (2,2) Advanced Conducting. Individual or group study with appropriate instructor of choral, orchestral, or band literature. Practice in score reading, baton technique, and interpretation. Opportunity to rehearse and conduct ensembles when feasible. Prerequisite: completion of an undergraduate conducting course with graduate standing in music, or consent of instructor.

566-1 to 12 (1 or 2 per semester) Ensemble. Participation required each semester enrolled (summer excepted) in one or more of the ensembles listed below. In addition, students may elect participation in other regularly scheduled ensembles. One credit per group: maximum of two credits for concurrent participation in two groups. (a) Marching Salukis. (b) Symphonic band. (c) Concert wind ensemble. (d) Symphony. (e) Choral union. (f) Concert choir. (g) Chamber singers. (h) Guitar ensemble. (i) Opera workshop.

567-1 to 8 Music Theater Workshop. For experienced singers, actors, dancers, and instrumentalists. Normally offered during summer as a fulltime course for eight credits, or partial credit for the orchestral players. Prerequisite: audition.

568-1 to 16 (1 to 8 per semester) Opera Workshop. Open to all experienced singers and stage technicians. Performs one major work and two or more excerpt programs per year. Normal registration is for two credits; four credits with permission for those with major roles; eight credits for full time summer workshop.

570-3 History of Opera. The development of the music, libretti, and staging of opera from the late Renaissance to the present, with a detailed study of selected works. Prerequisite: for non-music majors: prior consent of instructor.

573-3 Medieval Music. Music of the medieval world; Gregorian chant; the Tropes; secu-

lar songs of the troubadours and trouveres; the rise of polyphony; Ars Antiqua; organum and conductus; Ars Nova; Dunstable and English descant up to about 1450; types of notation. Prerequisite: for non-music majors: prior consent of instructor.

574-3 Renaissance Music. Burgundian and Netherlands music from 1450 and its spread; Isaac and Josquin; 16th Century polyphony in France, Germany, Spain, and England; the rise of music for instruments and for solo voices. Prerequisite: for non-music majors: prior consent of instructor.

578-3 Twentieth Century Music. The heritage of 20th century music. Study and analysis of musical philosophies and techniques of post-impressionist and contemporary composers. Prerequisite: for non-music majors: prior consent of instructor.

580-2 to 4 (2,2) Graduate Composition. Composition in the larger forms for solo and ensemble performance. Prerequisite: 480 or prior consent of instructor.

595-2 Music Document. A written report presenting the history and style of works performed in graduate recital, MUS 598, or other topic relating to the student's principal performing area or independent study project. Prerequisite: 501 and approval of topic by the music graduate committee. On recommendation of the composition faculty and with graduate committee approval, a piece of music composed by the student for performance in MUS 598 may be substituted, accompanied by a written analysis.

598-4 Graduate Recital. Preparation and presentation of a full solo recital in any area of performance; or the preparation, rehearsal, and conducting of a full ensemble program or of the equivalent sections of several ensemble programs. Prerequisite: completion of at least four credits in 540 (or 556 for conductors) and the approval of the performance jury. The performance jury certifies the acceptability of the completed recital and the grade to the graduate committee.

599-2 to 6 Thesis. An intensive written study in the history, theory, teaching, or philosophy of music; or the manuscript and parts (with tape recording when feasible) of a substantial musical composition or series of compositions accompanied by an analytical or explanatory document. Graded *S/U* or *DEF*. Prerequisite: 501 and prior approval of topic or proposal by thesis director and graduate committee in music.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Pharmacology

500-1 to 16 Pharmacology Seminar. Presentation of research and current literature in pharmacology. Required of all graduate students in pharmacology. Requires presentation at a Journal Club session each fall semester and a formal seminar each spring semester for duration of registration. Graded *S/U* only. (SPRINGFIELD ONLY.)

550-8 (4,4) Principles of Pharmacology. A study of chemistry, pharmacodynamic actions, mechanisms of action, absorption, distribution, metabolism, elimination, adverse effects, interactions, and toxic effects of drugs currently used in therapeutics. Three to five hours lecture, one to four hours discussion per week. Must be taken in sequence. Prerequisite: organic chemistry, biochemistry, basic courses in physiology, and PHSL 420a,b or equivalent are highly recommended, or consent of coordinator. (SPRINGFIELD ONLY.)

551-4 Methods in Pharmacology. The main objective is to acquaint the student with various sophisticated laboratory equipment, basic techniques/principles of pharmacological experiments. One hour lecture and three hours laboratory twice weekly. This course is prerequisite to all advanced pharmacology courses. (SPRINGFIELD ONLY.)

555-3 Cardiovascular Pharmacology. A study of structure, biochemistry, electrophysiology, and neurogenic and humoral regulation of the cardiovascular system in normal and diseased states. Three hours of lecture per week. Prerequisites: 550a,b or equivalent, or consent of course coordinator. (SPRINGFIELD ONLY.)

560-3 Geriatric Pharmacology. A study covering age-related changes in the physiology of particular organ systems which lead to the prevalence of many diseases and to altered drug action in the elderly. Research issues in aging will be discussed emphasizing the biological substrates of altered pharmacodynamics and pharmacokinetics in the aged. Prerequisite: 550a,b and consent of course coordinator. (SPRINGFIELD ONLY.)

565-3 Principles of Toxicology. This course deals with principles and understanding of phenomena of chemical-biologic interactions; a study of adverse chemical effects on living organisms and risk that chemical exposure poses to man/environment; deleterious, acute, chronic chemical effects on specific organs, tests to predict risks, facilitate search for safer chemicals and drugs and means of rational treatment of manifestations of toxicity; prominent discussion on drugs, medical devices, food additives, pesticides; regulation of toxic chemicals, hazardous wastes, toxic pollutants in water and air; and emphasis on diseases caused by and uniquely associated with drugs, diagnosis and treatments of such intoxicants. (SPRINGFIELD ONLY.)

574-3 Neuropharmacology. (Same as Physiology 574.) A detailed examination of

the biochemical aspects of neuropharmacology with emphasis on neurotransmitters; their synthesis, storage, release, and metabolism in the central and peripheral nervous system. Considerable emphasis is placed on major research developments (both past and present) that influence how one studies the action of drugs on the nervous system. Prerequisite: PHSL 410 and CHEM 451.

590-1 to 24 Readings or Research in Current Pharmacological Topics. By special arrangement with the instructor with whom the student wishes to work. Graded *S/U* only.

599-1 to 6 Thesis Research. Research for thesis for a master's degree. Hours and credit to be arranged by chairman and adviser.

600-1 to 32 (1 to 12 per semester) Dissertation Research. Research for dissertation for the Ph.D. degree. Hours and credit to be arranged by chairman and adviser.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Philosophy

400-3 Philosophy of Mind. An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students.

415-3 Logic of Social Sciences. (Same as Sociology 415.) Logical and epistemological examination of the social sciences as types of knowledge. Basic problems in philosophy of science with major emphasis upon social science: relationship of theory to fact, nature of induction, nature of causal law, testability, influence of value judgments, etc. Intended for students with considerable maturity in a social science or in philosophy.

420-3 Advanced Logic. Study of the main forms of sentence and predicate logic, including topics in the philosophy of logic.

425-3 Philosophy of Language. (Same as Speech Communication 465.) Introduction to basic problems in the philosophy of language, including alternative theories of meaning and reference and the relation between meaning and intention.

430-3 Epistemology. An introduction to basic problems in epistemology, including the nature, sources, and units of knowledge, the

debates concerning foundationalism, correspondence versus coherence theories of truth, and perception.

435-4 Philosophy of Science. Critical survey of influential description of scientific method and theory construction. Topics include the relationship between observation and theory confirmation, explanation, and prediction, theory of change and discovery, view of scientific rationality. Historical cases will serve to focus the discussions.

441-4 Philosophy of Politics. (Same as Political Science 403.) Some of the central problems of modern political life, such as sovereignty, world government, authority and consent, the relations of economics and social studies to political theory. Prerequisite: 340, or GE-C 102, or consent of instructor.

443-4 Philosophy of History. Classical and contemporary reflections on the nature of history and historical knowledge as the basis for dealing with the humanities. Prerequisite: consent of instructor.

446-3 Philosophical Perspectives on Women. (Same as Women's Studies 456.) Discussion of contemporary views of women and social issues from a feminist perspective.

460-4 Philosophy of Art. The definition of art, its relation to science, culture and morals; the various types of art defined. Familiarity with at least one of the fine arts is assumed.

470-6 (3,3) Greek Philosophy. (a) Plato; (b) Aristotle. Prerequisite: 304 or consent of instructor.

471-4 Medieval Philosophy. Prerequisite: 304 or consent of instructor.

472-4 The Rationalists. Study of one or more of the following: Descartes, Malebranche, Spinoza, Leibniz, Wolff. Prerequisite: 305 or consent of instructor.

473-6 (3,3) The Empiricists. (a) Locke; (b) Hume. Prerequisite: 305 or consent of instructor.

474-9 (3,3,3) 19th Century Philosophers. (a) Kant; (b) Hegel; (c) Marx. Prerequisite: 306 or consent of instructor.

475-3 Chinese Philosophy. Confucianism, Taoism, or Buddhism. Emphasis on comparison of philosophy East and West.

482-3 Recent European Philosophy. Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture, and politics.

486-3 Early American Philosophy. From the Colonial period to the Civil War.

487-3 Recent American Philosophy. Thought of realists, idealists, and pragmatists, such as Royce, Santayana, Peirce, James, Dewey, and others.

490-2 to 8 Special Problems. Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

491-1 to 3 Undergraduate Directed Readings. Supervised readings for qualified

students. Open to undergraduates only. Prerequisite: consent of instructor.

500-3 Metaphysics. Recent writers and current problems in metaphysics.

501-3 Philosophy of Religion. Analysis of a problem in philosophical theology or the phenomenology of religion, or of the work of a particular thinker.

524-6 (3,3) Analytic Philosophy. Analytic philosophy of people such as Austin, Russell, Ayer, Wittgenstein, G. E. Moore. (a) Early. (b) Recent.

530-3 Theory of Knowledge. A contemporary writer or problem in epistemology. Emphasis on problem of reliability and structure of scientific knowledge.

531-3 Whitehead. Study in depth of a selected aspect or problem in Whitehead's philosophy.

542-3 Political and Legal Philosophy. Relations of law, morality, and politics, and consideration of problems and issues in philosophy of law.

545-3 Ethics. Recent British and American ethical theory.

560-3 Aesthetics. Selected topics or writings.

562-3 Philosophy of Human Communication. (See Speech Communication 562.)

570-3 American Idealism. One or more American idealists. Recent seminars have been devoted to the thought of Brand Blanshard and Peter A. Bertocci.

575-3 to 9 (3 per topic) Contemporary Continental Philosophy. Topics in phenomenology, existentialism, and structuralism as developed from Husserl to Derrida. May be repeated as the topic varies.

577-6 (3,3) Pragmatism. (a) Peirce and James. (b) Dewey and Mead.

581-3 Plato. Through study of selected dialogues and reconstruction of Plato's system as a whole. Discussions and reports.

582-3 Aristotle. Intensive reading on several texts, analyzing selected portions of Aristotle's thought.

587-3 Kant.

588-3 Hegel.

590-2 to 12 (2 to 4 per topic) General Graduate Seminar. Selected topics or problems in philosophy.

591-1 to 16 Readings in Philosophy. Supervised readings for qualified students. Prerequisite: consent of instructor.

599-2 to 6 Thesis. Minimum of four hours to be counted towards a master's degree.

600-3 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Physical Education

Courses in this department may require the purchase of supplemental materials.

400-3 Evaluation in Physical Education. Historical background of measurement in physical education; selection and evaluation of contemporary testing devices (predominantly tests of motor skill); structure and use of tests; administering the testing program; and statistical manipulation and interpretation and application of results.

403-3 Individualizing Physical Education Instruction for Students with Special Needs. Designed as an introductory survey of handicapping conditions found most often in the regular class setting with implications for physical education instruction. Emphasis is placed on a diagnostic-prescriptive teaching model. Students will learn to plan, implement, and evaluate quality physical education services to handicapped students. Prerequisite: graduate standing or consent of instructor.

407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries. The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries.

408-2 Physical Fitness: Its Role and Application in Education. An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

409-3 Social Aspects of Sport and Physical Activity. This course presents an analysis of the social implications of sport on society and includes consideration of sports in relation to sexual identification, women, minority groups, politics, political activism, social deviance, and other related areas.

410-3 Behavioral Analysis of Sport. Application of sport psychology principles and theories to athletic situations in order to better understand sport related behavior. Behavioral problems related to sport are discussed, with a goal of enhancing athletic performance through the creation of a positive sport environment.

415-1 to 6 (1 per topic) Workshop in Sports. A concentrated experience in the latest theories and techniques of selected sports activities. Emphasis is placed on individual and team drills, instructional materials and improved teaching methods. One semester hour for each workshop. A total of four hours only of such workshop experience may be credited toward the master's degree. Workshop titles are: (a) baseball, (b) basketball, (c) field

hockey, (d) football, (e) gymnastics, (f) soccer, (g) softball, (h) swimming, (i) track and field, (j) volleyball, (k) tennis, (l) athletic training.

417-2 to 16 (2 semester hours per part)

Concert Production Ensemble. Practical experience in concert production. (a) Performance, (b) choreography, (c) concert publicity, (d) costume design and construction, (e) set design and construction, (f) lighting design and technical execution, (g) sound production, (h) stage management and assistant directorship. Not for graduate credit. Prerequisite: 340a,b, 350a,b, or 379a,b, or equivalent and consent of instructor.

418-2 Administration of Aquatics. The study of comprehensive aquatic programs, their implementation and coordination.

420-3 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Requires purchase of laboratory manual. Prerequisite: PHSL 209 or equivalent.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) dance, (b) kinesiology, (c) measurement, (d) motor development, (e) physiology of exercise, (f) history and philosophy, (g) motor learning, (h) psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chair.

494-2 (1,1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

500-3 Techniques of Research. Study of research methods and critical analysis of research literature specifically applied to the areas of motor performance and exercise. Prerequisite: consent of adviser in the Department of Physical Education.

503-2 Seminar in Physical Education. Making a systematic analysis of problems and issues encountered in the conduct of physical education. Selection of a problem or issue that is a concern to physical education and suggestion of solutions.

505-2 to 6 (2 per topic) Topical Seminar in Physical Education. Students may concentrate on different topics each semester dependent upon both the interests of the students and the expertise of the graduate faculty. Prerequisite: consent of instructor.

508-2 Administration of Athletics. Designed to present a broad view of the role of athletics in its relationship to the total educational program, and to examine current practices in athletic management which operate within a framework of recommended policies and rules which govern athletics.

509-3 Administrative Theory and Practice in Physical Education. Selected ad-

ministrative processes in physical education and the application of theory to the processes. The course attempts to systematize concepts, insights, and propositions into a usable form, to increase the understanding of administrative problems, and to expand existing knowledge and thought about behavioral phenomena. Prerequisite: 503 for those with an administrative emphasis.

510-3 Motor Development. In-depth study of the development of gross motor skills from infancy through adolescence, the biological and environmental variables that affect motor development, and individual differences in attaining motor proficiency. In addition, selected current issues in motor development will be examined. No prerequisite.

511-3 Analysis of Human Physical Movement. Principles and procedures for qualitative analysis and the teaching of mechanical constructs for movement activities. The student completes a cinematographic analysis. Prerequisite: 303 or equivalent.

512-3 Biomechanics of Human Motion. Methods of data collecting and analyzing the biomechanics of human motion under normal and pathological conditions are covered. Students complete a biomechanical study for a one segment motion.

513-3 Perceptual Motor Learning of Physical Skills. Principles of learning applied to motor performance. Variables that affect learning of physical skills.

514-3 Seminar: Motor Skill Learning and Performance. In-depth seminar investigating the behavioral factors associated with the performance of physical skills. Current experimental and theoretical literature concerning selected topics emphasized. Prerequisite: 513.

515-3 Body Composition and Human Physical Performance. Physical dimensions of the human body as they influence motor performance and are modified by protracted physical exercise. Prerequisite: 420 or equivalent.

517-2 Athletic and Physical Education Facilities Design, Construction, and Maintenance. Basic principles of design, construction, and maintenance of athletic and physical education facilities based upon program characteristics and potential student enrollment. Emphasis on the development of new materials and trends toward new concepts of design and construction. Prerequisite: 357 or equivalent.

520-3 Metabolic Analysis of Human Activity. Metabolic principles pertinent to human physical performance with emphasis on sport, exercise, and occupational activity analysis. A detailed study of oxygen utilization, oxygen debt, mechanisms of oxygen transport as they relate to physiological homeostasis in localized and total body motor activity. Emphasis on the laboratory study of aerobic and anaerobic performance. Prerequisite: 420 or equivalent.

530-1 to 4 (1,1,1,1) Seminar in Research in Human Performance. Special problems in research on human performance, in depth

review of research on topics of specific interest, presentation, and evaluation of research proposals. Required for Ph.D. candidates. Must be taken for four consecutive semesters and in conjunction with 592 for the last three of these semesters.

555-1 to 4 Internship in Sport Management. The internship is a culminating experience directly related to the student's intended employment or area of interest. It will, therefore, normally be taken after the predominance of course work is completed. The internship may be completed in any appropriate setting as judged by the faculty associated with the area of sport management. All conditions of placement, conduct, and evaluation of the internship will be under the jurisdiction of the appropriate faculty. Graded *S/U* only.

590-1 to 4 Readings in Physical Education. Supervised readings in selected subjects. Prerequisite: consent of adviser and department chair.

592-2 to 8 Research in Physical Education. Plan, conduct, and report assigned research studies. Masters students may take up to three credit hours. Doctoral students must enroll for a minimum of six credit hours. Graded *S/U* only. Prerequisite: 500 or equivalent, consent of instructor.

599-3 to 6 Thesis. Prerequisite: 500 or equivalent.

600-1 to 32 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Physics

410-3 Mechanics II. Gravitation, continuous media, transformation properties, Lagrangian and Hamiltonian formalisms. Prerequisite: 310 or consent of instructor.

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor.

424-3 Digital Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors, and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers, and data acquisition. Prerequisite: 324 or consent of instructor.

quisite: 324 or consent of instructor.

425-3 Solid State Physics I. Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; optoelectronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor.

428-3 Modern Optics and Lasers. Properties of electromagnetic waves in space and media, polarization and interference phenomena and devices, electroand magneto-optic effects, optical gain and lasers. Prerequisite: 420 or consent of instructor.

430-3 Quantum Mechanics I. An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 205c, 310, and 320. Prior or concurrent enrollment in 410 and 420 is desirable.

431-3 Atomic and Molecular Physics I. Atomic spectra and structure; molecular spectra and structure. Prerequisite: 430 or consent of instructor.

432-3 Nuclear Physics I. Basic nuclear properties and structure; radioactivity, nuclear excitation and reactions, nuclear forces, fission and fusion. Prerequisite: 430 or consent of instructor.

445-3 Statistical Mechanics I. An introductory course in the principles and applications of classical and quantum statistical mechanics, and the elementary kinetic theory of matter. Prerequisite: 345 and 430 or concurrent enrollment.

450-1 Modern Physics Laboratory. Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c or consent of instructor.

460-8 (4,4) Physical and Applied Acoustics. Coordinated lecture and laboratory study in acoustical phenomena. Topics include vibration analysis, wave mechanics, two and three dimensional propagation and applications in physics, materials science, engineering, architecture, music, and environmental science. Emphasis on laboratory and field technique with modern computer analysis. Prerequisite: 301 or MATH 305 or concurrent enrollment.

470-1 to 3 Special Projects. Each student chooses or is assigned to definite investigative project or topic. Prerequisite: 310, 320 or consent of instructor.

500-6 (3,3) Mathematical Methods in Physics. Vector spaces and operators in physics. Hilbert spaces and complete orthonormal sets of functions. Elements and applications of the theory of analytic functions. Methods for the solution of partial differential equations of physics. Prerequisite: MATH 407 or equivalent, consent of instructor.

510-4 Classical Mechanics. Generalized coordinates and forces. Lagrangian, Hamiltonian, and variational formulations of mechanics. Central forces, oscillations; normal modes of molecular systems. Prerequisite: 410.

511-3 Mechanics of Deformable Bodies

and Fluids. Theory of stress, strain, and deformation in solids and the equations of flow in liquids and gases. Prerequisite: 510.

520-6 (3,3) Electromagnetic Theory. Determination of static, electrostatic, and magnetostatic fields. Microscopic and macroscopic theory of insulators and conductors. Maxwell's equations; radiation, propagation and scattering of electromagnetic waves. Electrodynamics and special theory of relativity. Selected topics. Prerequisite: 420.

530-6 (3,3) Quantum Mechanics II. Basic principles; the harmonic oscillator and the hydrogen atom; scattering; approximation and perturbation methods; spin, statistics. Prerequisite: MATH 406 or consent of instructor; 500 desirable.

531-6 (3,3) Advanced Quantum Mechanics. Quantum theory of radiation; applications of field theory to elementary particles; covariant quantum electrodynamics; renormalization; special topics. Content varies somewhat with instructor. Prerequisite: 530 and consent.

535-6 (3,3) Atomic and Molecular Physics II. Recent experimental methods in atomic and molecular spectroscopy with applications. Detailed quantum mechanical and group theoretical treatment of atomic and molecular systems. Reactions between atomic systems. Prerequisite: consent of instructor.

545-6 (3,3) Statistical Mechanics II. Principles of classical and quantum equilibrium statistics; fluctuation phenomena; special topics in equilibrium and non-equilibrium phenomena. Prerequisite: 445.

560-6 (3,3) Nuclear Physics II. Fundamental properties and systematics of nuclei, scattering theory, nuclear two-body problem, nuclear models, nuclear many-body problem, electromagnetic properties of nuclei, radioactivity, nuclear reactions. Prerequisite: 530 and consent of instructor.

565-6 (3,3) Solid State Physics II. Fundamental concepts in solid state physics. Lattice vibrations, band theory of solids, the Fermi surface, dynamics of electrons. Transport, cohesive, optical, magnetic, and other properties of solids. Prerequisite: consent of instructor.

570-1 to 12 (1 to 4 per semester for a maximum of three semesters) Special Projects in Physics. Each student works on a definite investigative topic under the supervision of a faculty sponsor. The projects are taken from the current research in the department. Resourcefulness and initiative are required. Prerequisite: consent of instructor.

571-6 (3,3) X-Ray Diffraction and Electron Microscopy. (See Mechanical Engineering 504.)

575-1 to 12 (1 to 4 per topic for a maximum of three topics) Special Topics in Physics. The courses reflect special research interests of the faculty and current developments in physics. They are offered as the need arises and interest and time permit. Students are required to give presentations. Prerequisite: consent of instructor.

581-1 to 3 (1,1,1) Graduate Seminar. Lectures on special topics by students, faculty, or

invited scholars; participation is required of all graduate students. For credit each student may present a seminar in the form of a lecture on a theoretical or experimental topic, a demonstration experiment, or apparatus critique. Prerequisite: lecturing experience or concurrent teaching. Graded *S/U* only.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Physiology

400-6 (3,3) Concepts in Anatomy. A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines including radiographic, cross-sectional, and developmental anatomy. Three lectures per week. Should be taken in a,b sequence. Prerequisite: 301 and senior standing or consent of instructor.

401-6 (3,3) Advanced Human Anatomy Laboratory. Laboratory dissection of the human body (six hours per week). Primarily for students majoring in physiology, other biological sciences, anthropology, etc. Prerequisite: 400 taken concurrently or prior enrollment in 401.

410-10 (5,5) Mammalian Physiology. Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle. Primary course for all students majoring in physiology or related sciences. Three lectures and two two-hour laboratory sessions per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

411-4 (2,2) Experimental Animal Surgery. (a) Covers animal care and preparation, anesthesia, etc; one lecture and one two-hour laboratory per week. (b) Provides training and practice in surgical procedures. Two two-hour laboratories per week. Must be taken in a, b sequence.

420-6 (3,3) Principles of Pharmacology. (a) Covers absorption, distribution, and metabolism of drugs and the action of certain drug classes on the living organism. Classes of drugs to be discussed include: (1) drugs affecting the automatic nervous system, (2) drugs used to treat neurological and psychiatric disorders, (3) local anesthetics, (4) neuromuscular blocking agents, and (5) analgesics. Two lectures per week and one two hour lab. Prerequisite: 210 or 410 (may take 410 concurrently), organic chemistry. Some knowledge of biochem-

istry is needed. **(b)** Continuation of (a). Involves a discussion of the physiological and biochemical action of various classes of drugs. Classes of drugs to be discussed include: (1) general anesthetics, (2) antihistamines, (3) diuretics, (4) antibiotics, (5) drugs used to treat cardiovascular disorders, and (6) drugs affecting the endocrine system. Prerequisite: 210 or 410, organic chemistry.

430-4 (2,2) Cellular Physiology. The nature and mechanisms of function of the living cell. Chemical and physical analysis of function at the cellular level. Two lectures per week. Prerequisite: organic chemistry.

433-6 (3,3) Comparative Physiology. Variations of physiological processes in animal phyla and comparison of these with human physiology. **(a)** Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. **(b)** Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lecture hours per week. Prerequisite: one year of biological science.

440-6 (3,3) Biophysics. **(a)** Biomathematics, biomechanics and biotransport. **(b)** Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: MATH 141 or equivalent; one year of college biological science including PHYS 310 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

450-3 Vertebrate Endocrinology. A survey of the major endocrine control systems of vertebrates. Emphasis will be on those mechanisms which trigger endocrine responses to maintain homeostasis. Prerequisite: 310; concurrent enrollment in 410 or demonstrated equivalency of prerequisites; or consent.

460-2 Electron Microscopy. Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

462-3 Biomedical Instrumentation and Measurements. (Same as Electrical Engineering 462.) Diagnostic and therapeutic modalities related to engineering. Includes study of electrocardiography, ultrasonography, and chemical instrumentation; radiation therapy, electrosurgery, and prosthetic design. Prerequisite: senior standing in any branch of engineering and at least one course in human physiology or consent of instructor.

491-3 to 8 Independent Research for Honors. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

492-1 to 3 Special Problems in Physiology. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor with whom the student wishes to work.

500-1 to 6 (1 per semester) Advanced Seminar in Physiology. Presentation of research and current literature in physiology. Required of all graduate students in physiology. Graded S/U only.

501-1 Presentation of Physiological Data. Students learn to prepare and deliver oral presentations of experimental findings in physiology, to organize the talk, prepare slides, and communicate effectively. Graded S/U only. No prerequisites.

510-2 Experimental Methods in Physiology. The main objectives of this course are to acquaint the student with modern laboratory equipment, and principles of physiological experimentation. Prerequisite: consent of instructor.

530-3 Advanced Cellular Physiology. An advanced discussion of the following topics as they relate to the cell; release of energy, contractility, regulation and control of metabolism, electrical excitability, membrane transportation, water, and organelles. Prerequisite: 430, CHEM 450, or their equivalents.

531-2 Advanced Cellular Physiology Laboratory. One one-hour lecture and one three-hour laboratory per week, designed to be taken concurrently with 530. Basic experimental procedures used in studies in cellular physiology.

533-4 Advanced Comparative Physiology. Advanced concepts and techniques used in current studies in comparative physiology. Three lectures and one discussion period per week.

540-3 Advanced Biophysics. Survey of recent biophysical research with emphasis on historical development of current advances. Three lectures per week. Prerequisite: 440 or its equivalent.

560-4 (2,2) Physiological Techniques. **(a)** Covers library research and basic laboratory methodology. **(b)** Covers *In Vivo* analytic instrumentation, BASIC programming and graphic techniques for physiology. Prerequisite: one year of biological science laboratory courses. Strongly recommended: one year of college physics; MATH 141 or equivalent. May be taken in b,a sequence with consent of instructor.

570-3 to 48 Advanced Physiological Topics. Studies of current research and literature in various topic areas of physiology. One or more of the following list of topic sections will be offered each semester, so that each section will be available once every two or three years. **(a)** Biological structure, **(b)** cardiovascular physiology, **(c)** respiratory physiology, **(d)** nerve-muscle physiology, **(e)** metabolism physiology, **(f)** gastrointestinal physiology, **(g)** neurophysiology, **(h)** radiation physiology, **(i)** environmental physiology, **(j)** biomathematics, **(k)** biomedical computing, **(l)** endocrinology, **(m)** animal care, **(n)** biophysics, **(o)** pharmacology, **(p)** special topics, **(q)** reproductive physiology, **(r)** renal physiology.

571-3 Research and Problems in Biological Transmission Electron Microscopy (TEM). Laboratory course designed to provide experience in techniques for biological elec-

tron microscopy. Student, with the aid of the instructor, designs and carries out a project in transmission electron microscopy. Two three-hour laboratories per week. Prerequisite: 460 or special permission of instructor.

572-2 Physiology of Fertilization. Considers mechanisms of sperm maturation and the structure and metabolic properties of the major spermatozoa. The molecular events thought to be involved in the development of motility and the ability to fertilize eggs will be discussed. Typical topics include gamete transport, sperm capacitation, the acrosome reaction and the function of the acrosome, sperm attachment to and penetration of the zona pellucida, sperm fusion with the eggs, metabolic changes associated with fertilization. Emphasis will be placed on discussion and evaluation of recent publications in the field. Prerequisite: 410 or equivalent, 400-level biochemistry or equivalent, or consent of instructor.

574-3 Neuropharmacology. (Same as Pharmacology 574.) A detailed examination of the biochemical aspects of neuropharmacology with emphasis on neurotransmitters—their synthesis, storage, release, and metabolism in the central and peripheral nervous system. Considerable emphasis is placed on major research developments (both past and present) that influence how one studies the action of drugs on the nervous system. Prerequisites: 410, and CHEM 450, or equivalent.

575-3 Neuroendocrinology. Designed to investigate and discuss the current research and historical aspects of the field of neuroendocrinology. In addition, designed to have students examine and evaluate current literature in the field and through discussion have them present their analysis of the research. One hour of lecture, one hour of discussion of textual material, one hour of multiple reports on library research. Prerequisite: 410a, b or equivalent, or an undergraduate/graduate endocrinology course, or consent of instructor.

590-1 to 4 Readings or Research in Current Physiological Topics. By special arrangement with the instructor with whom the student wishes to work. Graded *S/U* only.

599-1 to 6 Thesis Research. Research for thesis for master's degree.

600-1 to 32 (1 to 16 per semester) Dissertation Research. Research for dissertation for Ph.D. degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Plant and Soil Science

Field trips are required for certain courses.

400-2 Trends in Agronomy. A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

405-3 Plant Breeding. Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent.

408-3 World Crop Production Problems. Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200.

409-3 Crop Physiology and Ecology. The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: BOT 320 or consent of instructor.

419-3 Forage Crop Management. Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5. Prerequisite: BOT 200 or one course in biology or equivalent.

420-4 Crop Pest Control. Study of field pests of forest, orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course or consent of department.

422-3 Turfgrass Science. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322, or equivalent, or consent of instructor.

423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips cost approximately \$5. Prerequisite: 220 or consent of instructor.

424-4 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costs approximately \$25. Prerequisite: 423 or consent of instructor.

428-6 (3,3) Advanced Landscape Design. Theory and principles of residential landscape design. Practice in drawing residential landscape plans. (a) Emphasis on arrangement of unit areas. (b) Emphasis on details of design and selection of plants. Prerequisite: 328-4 or consent of instructor.

430-4 Plant Propagation. Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds cuttings, grafts, and other methods of

propagation. Field trip costs approximately \$5. Prerequisite: 220.

432-4 Nursery Management. Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a or consent of instructor.

434-3 Woody Plant Maintenance. Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or FOR 202 or consent of instructor.

436-4 Fruit Production. Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

437-4 Vegetable Production. Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trips cost approximately \$5. Prerequisite: 220 or consent of department.

441-3 Soil Morphology and Classification. Development, characteristics, and identification of soils; study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costs approximately \$5. Prerequisite: 240 or consent of instructor.

442-3 Soil Physics. A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.

443-3 Soil Management. The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen, and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240.

446-3 Soil and Water Conservation. Covers the principles of hydrologic processes and soil erosion. Consideration will be given to the occurrence of soil erosion as it affects humans, food production, and the environment. The methods and technologies for protecting and controlling of erosion will also be discussed. Prerequisite: 240 and GED 107 or consent of instructor.

447-3 Fertilizers and Soil Fertility. Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240; concurrent enrollment in 448 suggested.

448-2 Soil Fertility Evaluation. A labora-

tory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

454-4 Microbial Processes in Soils. A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic matter, minerals, and nitrogen in soil. Prerequisite: 240 or MICRO 301.

468-3 Weeds—Their Control. Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical control of weeds. State and federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field trips cost approximately \$5. Prerequisite: an introductory biology course.

470-2 Post Harvest Handling of Horticultural Commodities. Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental, and floricultural commodities. Field trip costing approximately \$30. Prerequisite: 220, BOT 320.

518-3 Principles of Herbicide Action. Chemistry and mode of action of herbicides. Nature of herbicidal action. Illustrates the various types of chemical weed control procedures in current use. The physiology of herbicidal action examined using the different mechanisms established for various chemical groups of herbicides. Prerequisite: 468, BOT 320.

520-3 Growth and Development of Plants. Physiological control of developmental processes. Emphasis on exogenous growth-regulating compounds and their behavior in plants. Prerequisite: BOT 320 or consent of instructor.

524-2 Advanced Plant Genetics. (See Botany 524.) Prerequisite: BIOL 305 or equivalent.

526-4 Cytogenetics. (See Botany 526.) Prerequisite: BIOL 306 and 306 or equivalent.

547-2 Soil-Plant Nutrient Relationships. A study of advanced topics relating to fertilizer and nutrient use efficiency by plants, including research methods for fertilizer use evaluation and plant response. Mechanisms in the soil for nutrient storage, release, fixation, and loss will be dealt with as they relate to efficient use by plants. Prerequisite: 447 or equivalent.

560-5 (3,2) Field Plot Technique. (a) Design of field plot and greenhouse experiments including appropriate statistical analyses for each of the designs. Data interpretation. Prerequisite: consent of instructor. (b) Each of the designs discussed in (a) will be illustrated with a type problem and solved by computer processes using primarily MINITAB and SAS software programs. Prerequisite: 560a or concurrent enrollment, or consent of instructor.

581-1 to 4 (1,1,1,1) Seminar. Individual

presentations on subjects and problems relating to soils, field and horticultural crops, and other phases of plant and soil science. Graded *S/U* only.

582-6 (2,2,2) Colloquium in Plant and Soil Science. Recent developments and trends in specialized areas of plant and soil science will be discussed in (a) genetics and plant breeding, (b) research methods, (c) physiology and ecology.

588-1 to 8 International Graduate Studies. Residential graduate study programs abroad. Approval of department required both for the nature of program and number of hours of credit. Prerequisite: consent of department chair. Graded *S/U* only.

590-1 to 4 Readings. Contemporary books and periodicals on selected subjects within the fields of plant and soil science. Prerequisite: consent of department.

592-1 to 3 Special Problems. Directed study of specialized areas of crop production, horticulture, or soils depending on the program of the student. Discussion, seminars, readings, and instruction in research techniques. Prerequisite: consent of department.

593-1 to 4 Individual Research. Directed research on approved projects investigating selected fields of plant and soil science. Prerequisite: consent of department.

599-1 to 6 Thesis. At least three hours of thesis credit is required for the master's degree under the thesis option. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Political Science

The Department of Political Science offers courses toward the Master of Arts degree and Ph.D. degree in political science and the Master of Public Affairs.

403-4 Philosophy of Politics. (See Philosophy 441.)

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor.

405-3 Democratic Theory. An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: GE-B 114 or consent of instructor.

406-3 Socialist Thought. An examination of socialist thought regarding social structure,

economic institutions, and political power. Prerequisite: senior or graduate standing or consent of instructor.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor.

413-3 Contemporary Intergovernmental Relations. An examination of relationships among national, state, and local governments in the American federal system, with emphasis on recent literature and contemporary issues. Special attention given to fiscal relations and specific intergovernmental programs in areas such as housing and environmental quality are examined. Prerequisite: GE-B 114.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 213.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213.

416-3 Senior Seminar in Politics. Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended.

417-3 Political Psychology. An examination of various psychological theories as they relate to the development and change of political attitudes, leadership behavior, and mass political participation. Prerequisite: 200 recommended.

418-3 Political Communications. (See Speech Communication 451.)

419-4 Political Sociology. (See Sociology 475.)

429-3 Women and the American Political Process. Focuses on the role of women in the American political system. Examines the political behavior of women as voters and as political elites. Also analyzes policies regarding women's issues, such as comparable worth, affirmative action, and reproductive rights.

433-6 (3,3) Constitutional Law. (a) This, the initial course in a two-course sequence, will be concerned with the basic structure and power relationships in the American constitutional system and, in addition, will cover the 19th and early 20th century bulwarks of constitutional *laissez faire*, the contract clause and "substantive" due process. In brief, the course will cover judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, constitutional amendments, and restraints on economic powers, the contract clause and "substantive" due process. Prerequisite: GE-B 212. POLS 330 is recommended. (b) This is the second course in the constitutional law sequence. The course will be wholly concerned with those provisions of the Constitution which protect individual rights and liberties against governmental encroachment. In brief, the course will cover con-

stitutional provisions and case precedents relating to citizenship, freedom of speech, assembly, and association, freedom of religion, rights to persons accused of crime, protection against racial, ethnic, and other forms of discrimination, legislative apportionment and the electoral process. Prerequisite: GE-B 114.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: GEB 212 or POLS 340 recommended.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights.

441-3 Administration of Bureaucratic Organizations. A study of the elements of bureaucratic organization and of problems and procedures in administration of complex public agencies. Emphasis is placed on the personnel aspects of public bureaucracy, including the history and structure of civil service systems, conditions of public service employment, and issues in leadership and supervision. Prerequisite: 340 or consent of instructor.

443-3 Public Financial Administration. An examination of governmental revenues and expenditures, with emphasis on state and local governments. Special attention is given to patterns of taxation and expenditure, inter-governmental fiscal relations, municipal debt, and administrative decisionmaking. Prerequisite: none; 213 recommended.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decisionmaking at all levels of government—federal, state, and local—as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation—including the National Environmental Policy Act, the Clean Air Act, and Water Pollution Control Act and the Surface Mining Reclamation Act.

446-3 Museum Administration. A comprehensive introduction to museum administra-

tion and management including fiscal and budget oversight; understanding of museum ethics; acquisition, conservation and exhibition planning; personnel matters; and museum research. Museum practicum and research stressed.

447-4 to 5 (3, 1 or 2) Urban Planning. (See Geography 470a, b.)

451-3 Ascriptive Politics: Gender, Race, Ethnicity. (Crosslisted as Black American Studies 445 and Women's Studies 447.) Comparative analysis of ascriptive factors in participation, organization, leadership recruitment and selection, stratification and mobility, policy formulation and implementation, judicial decision-making, and political change.

452-3 The Politics of Developing Areas. A comparative study of the principal features of traditional, transitional, and modern political systems, patterns of social socialization and culture as well as leadership recruitment, and client-patron relationships in traditional and transitional political systems, the nature of political participating in predominately agrarian societies, and the strategies utilized to rule and to legitimize the rule of predominately post-colonial societies. Prerequisite: GE-B 250 recommended.

455-3 Comparative Public Administration. Administrative attitudes, behaviors, and institutions are compared on a topical basis in governments of Britain, Europe, the United States, Japan, and selected socialist, developing, and ancient states.

456-3 Comparative Social Policy. Issues of the modern welfare state in comparative perspective. Factors affecting the extent and nature of the welfare state in the United States. The problem of what types of policies would be most effective in achieving alternative types of welfare results. Emphasis on comparative analysis and interrelationships within larger social systems.

457-3 Great Britain and the Commonwealth. The nature of the Commonwealth association and the politics of Great Britain and the "Old Commonwealth" countries: Australia, Canada, New Zealand. Prerequisite: none. GE-B 250 recommended.

458-3 Contemporary Western Europe. Comparative study of contemporary political systems and policy issues of Western Europe. Emphasis on selected countries and common problems facing governments. Topics covered include the European community, security, economic, energy, and social policies, and study of various governing processes.

459-3 Government and Politics of the Soviet Union. Dynamics of Soviet government and economy. Prerequisite: none. GE-B 250 recommended.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. GE-B 250 recommended.

462-3 Government and Politics of Vietnam. Origins of revolution. The war for national reunification. Impact of American in-

volvement. Contemporary problems of consolidation and development under communist rule. Implications for regional security. Prerequisite: none. GE-B 250 recommended.

463-3 Government and Politics of China. Internal political, economic, and social development of China. Prerequisite: none. GE-B 250 recommended.

464-3 Governments and Politics in the Middle East. Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: none. GE-B 250 recommended.

465-3 Governments and Politics of Sub-Saharan Africa. (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and politics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations, and non-African states. Prerequisite: none. GE-B 250 recommended.

466-4 Governments and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended.

468-3 Comparative Civil-Military Politics. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalization of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: none. GE-B 250 recommended.

475-6 (3,3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. GE-B 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 475a.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: none. GE-B 378 recommended.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment.

485-3 International Relations of the Far East. The political and strategic problems and the interplay of the foreign policies of the major powers in this area. Prerequisite: none. GE-B 270 or HIST 380 recommended.

488-3 International Relations of the

Western Hemisphere. Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. GE-B 270 recommended.

494-1 to 6 Honors Research. Directed research for senior government honors students. Not for graduate students. Prerequisite: consent of instructor and chair. Students must have at least a B average in political science.

500-3 Pro-Seminar in Research Methods. A survey at the graduate level of major topics in empirical research methods. Subject matter will include the philosophy of science, measurement problems, methods of data acquisition, strategies of research design, levels of analysis, modes of analysis, and research ethics. The student is strongly urged to enroll in this course prior to enrolling in 502. Students offering methods as an area of concentration are required to complete this course prior to enrolling in 501 and 502. Required of all M.A. students to fulfill methods requirement for degree.

501-3 to 9 (3 per topic) Research Methods.

(a) Experimental and quasi-experimental research design. The role of experimental and quasi-experimental research design in political science. Specific topics discussed include the logic of experimental control, principles of research design, threats to internal and external validity, and ethical considerations in experimenting with human beings. Prerequisite: MATH 516a or b or the equivalent. (b) Simulation. Analysis, design, construction, and evaluation of human, human-computer, and computer games and simulations for teaching, training, and research in political science. Prerequisite: MATH 516a or the equivalent. (c) Survey research and sampling. Basic concepts of sampling, sampling frames; types of sample design; survey designs, questionnaire construction, interviewing, coding, introductory survey analysis techniques, and ethical considerations in political science. Prerequisite: MATH 516a or the equivalent. (d) Causal modeling. Statistical techniques for the non-experimental investigation of causal systems. Logic of causal analysis, systems of simultaneous linear equations, causal modeling, path analysis, and structural equation models. Prerequisite: MATH 516a and b or the equivalent. (e) Theory and Methods of Scaling. (See Psychology 527.) (f) Theory building. Techniques of theory-building and typology construction. Probability theory; game theory; systems of differential equations; difference equation models; time series models; computer simulation models, and causal models. Criteria for evaluating internal and external validity for the best theory. Prerequisite: MATH 516a and b or the equivalent.

502-3 to 6 Topical Seminar in Research Methods. Advanced seminar in empirical research methods. Topics will vary with instructor. Prerequisite: consent of instructor.

503A-3 Data Preparation and Management Mainframe. Covers the mainframe computer creation, dictionarying, cleaning,

and management of data files using SAS, SPSSX, BMD, OSIRIS, and the IBM OS/VS utility programs. Also treats the use of the IBM Job Control Language (JCL), the Conversational Monitor System (CMS), catalogued procedures, instream procs, and CMSEXEC's. A research tool course not to be counted toward graduate degree requirements.

503B-3 Data Preparation and Management Microcomputer. Covers the micro computer creation, dictionarying, and cleaning and management of data files using SPSSPC, SASPC, or other micro packages. Also treats Disk Operating Language and procedures for moving data between micro and main frame computers. A research tool course not to be counted toward graduate degree requirements.

504-3 Pro-Seminar in Political theory. The course will survey a sampling of the best works from the broad and diverse spectrum of political theory. Normative, empirical, analytical, critical, and other types of theoretical works will be analyzed. Students offering political theory as a graduate area are required to complete this course prior to enrolling in research seminars in political theory.

505-3 to 6 (3,3) Topical Seminar in Normative Theory. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus.

508-3 to 6 (3,3) Topical Seminar in Empirical Theory. Systems, structural-functional, conflict, decision-making, integration, organization, exchange, communications, democratic, totalitarian, change and revolution theories will be analyzed to determine their domain and predictive and/or explanatory capacities. Generally, half of these theories will be offered every other year. Prerequisite: consent of instructor.

510-3 Pro-Seminar in American Politics. Designed to survey the major literature in the field of American government at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that will be covered in greater depth in each subject-matter research seminar. Highly recommended for new teaching assistants. Required for students offering American politics as a graduate area before enrolling in more advanced subject-matter seminars.

511-3 to 6 (3,3) Topical Seminar in American Politics. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus. Prerequisite: basic course, related training, or consent of instructor.

514-3 Seminar in American State Politics. Student should see director of graduate studies of advance syllabus. Prerequisite: 414 or consent of instructor.

515-3 Seminar in Urban Politics. Student should see director of graduate studies for advance syllabus. Prerequisite: 415 or consent of instructor.

516-3 to 6 (3,3) Seminar in Political Behavior. Topic will vary with instructor. Student should see director of graduate studies for

advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

518-3 Seminar in Political Parties. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

521-3 Seminar in the Legislative Process. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

530-3 Pro-Seminar in Public Law. Designed to survey the major literature in the field of public law at the graduate level. The course will consider both traditional and non-traditional approaches to the subject and will acquaint students with readings and analyses covering the scope of this sub-field. Required of all students offering public law as a graduate area. Prerequisite: basic undergraduate work in the field or consent of instructor.

538-3 Seminar in the Judicial Process. An examination of the literature on such topics as judicial selection, the impact of court decisions, court procedure, and the factors affecting the decision-making behavior of judges. Prerequisite: 433 or equivalent or consent of instructor.

540-3 Environment of Public Administration. Examination of the social, political, legal, and managerial constraints on the behavior of public administrators. Special attention is given to the relationship between public sector managers, on the one hand, and legislators, interest group representatives, elected executives, agency employees, clients, and the general public, on the other hand. Issues in ethics and the public's expectations of professional administrators are also examined. Prerequisite: GEB 212 and POLS 340 or equivalent or consent of instructor.

541-3 Seminar in Applied Problems of Public Administration. Study of selected problems in public administration and policy. Emphasis placed on the practitioner's perspective. Prerequisite: 340 or consent of instructor.

542-3 Public Budgeting and Fiscal Management. An examination of the theory and practice of budgeting in the public sector and of selected elements of fiscal management. The course focuses on administrative aspects of budgeting and is oriented toward preparation of students for careers in the public service. Approaches and techniques in revenue forecasting, program planning, and performance measurement are included. Students utilize primary materials in conducting individual or class projects aimed at development of budgetary skills. Prerequisite: 340 or equivalent or consent of instructor.

543-3 Public Personnel Management. A study of the processes and procedures used in contemporary public personnel systems. Emphasis is placed on examination of competing models of personnel administration, application of personnel management strategies to specific case problems, and public sector labor relations. Required of all M.P.A. degree candidates. Prerequisite: consent of instructor.

544-3 Program Analysis and Evaluation.

An examination of approaches and problems in the analysis and evaluation of governmental programs. Emphasis is placed upon the use of analytical techniques to determine program impact and the use of evaluation in governmental decision making. Required of all M.P.A. degree candidates. Prerequisite: graduate level statistics course or consent of instructor.

545-3 Organization Theory and Behavior.

An examination of various approaches to describing and understanding public organizations and the individuals within them. Emphasis is placed on study of the important theoretical literature in the field and on the application of theory of practical management problems in governmental units and agencies. Required of all M.P.A. students. Prerequisite: consent of instructor.

547-6 (3,3) Topical Seminar in Public Administration.

(a) Devoted to selected techniques and tools of public administration; (b) in-depth study of selected problems in the process and environment of public administration.

550-3 Pro-Seminar in Public Administration.

A survey of the major literature in the field of public administration. The course will synthesize and integrate the literature and provide an overview of topics to be covered in greater detail in other seminars. Required of M.A. and Ph.D. students offering public administration as a graduate area before enrolling in more advanced subject-matter seminars.

560-3 Pro-Seminar in Comparative Politics.

A survey of the major literature in the field at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that may be covered in greater substantive depth in each subject matter seminar in comparative politics. Students offering comparative politics as a graduate area are required to complete this course prior to enrolling in research seminars in comparative politics.

568-3 Seminar in Comparative Analysis.

Development and evaluation of appropriate approaches, theories, research designs, and data gathering and analysis techniques for studying a variety of macro and micro level, cross-cultural and cross-level comparative research problems.

569-3 to 6 (3,3) Topical Seminar in Comparative Politics.

Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, and consent of instructor.

570-3 Pro-Seminar in International Relations.

A survey of the major literature in the field at the graduate level. The course will synthesize and integrate the literature and give an overview of topics that may be covered in greater substantive depth in subject matter seminars in international relations. Students offering international relations as a graduate area are required to complete this course prior to enrolling in research seminars in international relations.

573-3 Seminar in International Organization. Student should see director of graduate studies for advance syllabus.

575-3 Seminar in International Law. Student should see director of graduate studies for advance syllabus.

577-3 to 6 (3,3) Topical Seminar in Foreign Policy.

Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

580-3 to 6 (3,3) Topical Seminar in International Relations.

Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training, or consent of instructor.

590-1 to 6 Readings. Supervised readings in selected subjects. Prerequisite: completion of the appropriate pro-seminar for the field in which readings or individual research is to be done.

591-1 to 6 Individual Research. Selection, investigation, and writing of a research paper under the personal supervision of a member of the department graduate staff. Prerequisite: completion of the appropriate pro-seminar for the field in which readings or individual research is to be done.

593-1 Preprofessional Seminar in Political Science.

Designed to give the student an introduction to the major professional roles in the discipline. The requirements of teaching, research, publication, and service are covered with discussion of where each fits into the professional role requirements and examples of how each is accomplished. Required of all Ph.D. and M.A. students in political science and other teaching assistants in political science. Graded *S/U* only.

595-1 to 6 Internship in Public Affairs.

Fieldwork in the office of a governmental or quasi-governmental agency. The internship is arranged by the field coordinator of the M.P.A. degree program and provides a stipend as negotiated by the coordinator and agency representative. A paper in which the student correlates academic knowledge with practical internship experience is required. Mid-career M.P.A. students may receive credit upon completion of a paper relating previous work experience to public administration literature and theory. Prerequisite: consent of department. Graded *S/U* only.

596-1 to 6 Research Paper in Public Affairs.

Upon successful completion of core courses, the student expands and develops a previously written MPA graduate program paper. The project involves an issue or problem in public administration and is written with the approval and under the supervision of the student's committee chair. Graded *S/U* required. Prerequisite: consent of department.

599-1 to 6 Thesis. Maximum of six hours to be counted toward a degree. Prerequisite: consent of instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment.

ment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Public Affairs

(See Political Science.)

Psychology

407-3 Theoretical Issues in Learning. An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 309 or equivalent.

409-3 History and Systems of Psychology. A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: senior status.

411-3 Principles of Training. An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 309.

413-3 Individual Differences. Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race, and socioeconomic status. Prerequisite: 305.

414-3 Biology of Behavior Disorders. An examination of theory and research pertaining to the physiological basis of and therapies for a variety of psychological problems such as affective disorders, schizophrenia, alcohol and drug abuse, organic brain dysfunction, and aging. Prerequisite: 302.

415-4 Psychopharmacology. A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: 302, GE-B 202.

416-3 Recovery of Function Following Brain Damage. A survey of the experimental animal and human clinical research as they relate to behavioral recovery following damage in the central nervous system. Recent theories and literature are stressed. Prerequisite: 302 or consent of instructor.

419-3 Behavior and Heredity. Provides an

overview of the experimental and quantitative methods used in studying behavioral differences associated with genetic variables. Elementary aspects of genetics will be included in the course, which will examine several aspects of both human and nonhuman behavior. Prerequisite: 211 or consent of instructor. ZOOI 214, BIOL 305, or equivalent is recommended.

421-3 Psychological Tests and Measurements. Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude, and personality. Prerequisite: six hours of psychology.

431-3 Psychopathology. Classification, description, etiology, and treatment of the disorders of personality organization and behavioral integration. Observations in a state mental hospital setting. Prerequisite: 305 or consent of instructor.

432-3 Psychopathology of Childhood. An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 301, and 211, or EPSY 422.

440-3 Theories of Personality. A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 305 or consent of instructor.

441-3 Helping Skills in Clinical and Counseling Psychology. Provides systematic training in helping skills for students considering clinical or counseling psychology as a career. Students will learn to identify and demonstrate such individual skills as encouragement, paraphrasing, and reflection of feeling, and will use them in practice situations. Students will also learn to apply various approaches to psychotherapy and counseling using hypothetical case studies. The course is complementary to 340. Prerequisite: 340 or consent of instructor.

445-4 Introduction to Psycholinguistics. (See Linguistics 445.)

451-3 Advanced Child Psychology. An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor.

461-3 Advanced Social Psychology. Critical examination of contemporary theories and research in social psychology. Practice in application of scientific findings to real life problems of individuals and groups. Issues treated in depth are chosen for relevance to students' personal needs and career interests. Not for psychology graduate students. Prerequisite: 307.

463-3 Attitudes and Persuasion. An examination of theory and research regarding the formation of attitudes, the modification of attitudes, and the techniques of measuring attitudes. Prerequisite: 307.

465-3 Need Assessment Techniques for Mental Health Planning. Methodological techniques for assessing the need for mental health services including developing a re-

source inventory, use of census and other social indicator data, rates under treatments, community and consumer surveys, hearing and site visits. Attention is also paid to the method of presenting results of need assessments to lay boards. Prerequisite: senior psychology major, or graduate status, or consent of instructor.

489-1 to 12 Seminar: Selected Topics. Varied as need exists and as faculty interests and time permit. Prerequisite: consent of instructor.

499-6 (3,3) Senior Honors in Psychology. Intensive study of selective areas for students qualified for honors work in psychology. A research paper or equivalent will be required. Not for graduate credit. Prerequisite: consent of instructor.

510-3 Learning Processes. Reviews current literature in various areas of learning. Coverage is limited to those topics which are subject to laboratory investigation and which do not involve verbal processes.

511-3 Human Learning and Memory. Survey of the current experimental theoretical literature on human learning and memory with primary emphasis on verbal learning and memory. Prerequisite: consent of instructor.

512-4 Sensory Processes. A study of the structure and functions of the sense organs. Emphasizes the psychological data which describe the function of these organs. Lecture and laboratory. Prerequisite: consent of instructor.

513-3 Human Psychophysiology. Physiology, instrumentation, and methodology of psychophysiological measurements including both autonomic and central nervous systems. Attention will be given to basic and applied research. Prerequisite: graduate standing.

514-4 Neurobiological Bases of Behavior. An advanced study of neuroanatomical and neurophysiological principles underlying behavior. Topics covered include structure and function of neurons, synaptic transmission, sensory processing, motor control, development and plasticity of the nervous system, and other current topics in neurobiology. Prerequisite: GE-A 302 or equivalent and consent of instructor.

515-3 Theory and Research in Cognitive Psychology. A detailed survey of current studies of attention, short-term memory, and thought processes. Prerequisite: consent of instructor.

516-3 Human Clinical Neuroanatomy. Basic functioning of the nervous system, detailed gross anatomy and dissection of the human brain, functional disorders following brain damage, noninvasive cranial nerve examination. Prerequisite: graduate standing.

520-3 Applications of the Psychology of Learning and Memory. A survey of the theories and methods of training that have resulted from research in the areas of learning and memory. Students will review some of the very recent methods as well as those that are better developed. Practice will be provided. Prerequisite: 309 or consent of instructor.

522-8 (4,4) Experimental Design and

Analysis. A relatively detailed treatment of the rationale for quantitative methods in psychological research: (a) experimental design and the analysis of variance; (b) complex designs and extensions of the analysis of variance. Prerequisite: psychology graduate student or consent of instructor.

523-3 Research Methods in Clinical Psychology. A discussion of the problems of experimental design, control, and analysis that are encountered by researchers in clinical psychology. This course emphasizes the application of techniques learned in other courses to the problems of critically evaluating published articles, generating research ideas, and evaluating internal and external validity of experimental designs. Prerequisite: psychology department required statistical sequence.

524-3 Multivariate Methods of Psychology. Detailed treatment of multiple-factor analysis and multiple regression analysis. Also includes introduction to other multivariate methods such as discriminant analysis and cluster analysis. Prerequisite: 522b or consent of instructor.

525-3 Mental Test Theory. Intensive coverage of such topics in test theory as item analysis, reliability, validity, problems of weighting in differential prediction, and problems in selection and classification. Prerequisite: 421 or consent of instructor.

526-3 Research in Counseling Psychology. This course provides a basic foundation of research skills. The course includes extensive reading in counseling psychology research and coverage of research design, specific research techniques, technical writing, and research ethics.

527-3 Theory and Methods of Scaling. The theory of measurement, by which observed behavioral events can be translated into quantitative scales of psychological constructs. The course will cover several axiom systems that form the foundation for psychological measurement, including representation in more than one dimension. Prerequisite: 522b.

528-3 Decision Analysis: Techniques for Aiding Decisions. A survey of formal methods for making decisions, based on subjective probability and multiattribute utility assessments. Students will be given practice in using methods of decision analysis for solving decision problems. Prerequisite: 522a or consent of instructor.

530-4 (2,2) Systems of Personality and Psychotherapy. A survey of the major theories of personality and systems of psychotherapy. Stresses relationship between theory and application. Prerequisite: consent of instructor.

531-3 to 6 Community and Institutional Field Placement. Introduction to a variety of area agencies with each student affiliating with two agencies at least two days per week. Individual and group supervision with special attention to the variety of clinically related problems and approaches to treatment encountered in the course of their activities. Required for clinical students. Prerequisite: 530b,

psychology graduate in clinical or counseling.
532-2 Experimental Approaches to Personality. Presentation of conceptual formulations and research data from representative experimental approaches to personality. Students will be expected to carry out a research project during the course. Prerequisite: 530a or consent of instructor.

533-2 Experimental Approaches to Psychopathology. An examination of the research literature on several issues in clinical psychopathology. Prerequisite: psychology graduate or consent of instructor.

534-3 Principles of Behavior Therapy. (Same as Rehabilitation 554.) A presentation of the clinical techniques and research findings associated with the various behavior therapies (including desensitization, assertive training, modeling, operant techniques, aversive conditioning, self-control, and "cognitive" behavior therapy). Prerequisite: graduate standing in the psychology department (clinical/counseling) or consent of instructor.

535-3 Psychopathology. Surveys the following issues and content areas in psychopathology: models and definitions of psychopathology, anxiety states, depression, schizophrenia, neurosis, behavior genetics, the mental hospital, and the classification of psychopathology. This course required for all clinical students within their first two years. Prerequisite: psychology graduate student or consent of instructor.

536-4 Fundamentals of Counseling. An introduction to counseling psychology as a professional specialty. Professional and ethical issues in the training and work of counseling psychologists are examined. Basic counseling skills are acquired through practice interviewing. Prerequisite: psychology graduate student or consent of instructor.

538-3 Theory and Practice of Group Facilitation. Didactic presentation of group dynamics and group counseling/therapy. Theories coordinated with facilitation of Psychology 101 groups. Prerequisite: graduate status.

539-3 Experimental Approaches to Psychotherapy. A review and evaluation of empirical research related to the amelioration of maladjustment. Emphasis is on measurement and methodological problems. Prerequisite: 530, 537, or consent of instructor.

540-6 (3,3) Psychological Assessment. Basic theory, practice, underlying assumptions, and research data on psychological assessment. (a) Objective psychological assessment. Methods include intelligence testing, objective personality scales, interviews, and observations. (b) Projective psychological assessment. Methods include the Rorschach Inkblot technique and Thematic Apperception Test. Prerequisite: psychology graduate status.

542-3 Principles and Problems in Personality Assessment. Critical review of research related to such topics as scale construction strategies, response styles, trait attribution, judgmental accuracy, and judgmental processes. Prerequisite: consent of instructor.

543-3 Advanced Child Assessment. Basic

theory, research, and practice in the psychological assessment of children's learning and emotional problems. Prerequisite: 540a, consent of instructor and psychology graduate standing.

544-3 Advanced Adult Assessment. Practical experience at conceptualizing psychopathology from a standard clinical test battery and in writing clinically meaningful test reports. Prerequisite: 540a, 540b, consent of instructor, and psychology graduate standing.

545-3 Introduction to Neuropsychological Assessment. Overview of the development of neuropsychology from signs to test batteries and methodology. Prerequisite: 540a, consent of instructor, and psychology graduate status.

546-3 Human Clinical Neuropsychology. This course will familiarize students with the basic concepts, empirical foundations, and clinical applications of human clinical neuropsychology. The neurobehavioral manifestations of both acute and chronic conditions will be covered. Prerequisite: 540a, psychology graduate status, and consent of instructor.

547-3 Appraisal in Counseling. Emphasis is on the choice of assessment instruments and how they may be used in counseling. Attention is given to tests of ability, interests, values and personality and the syntheses of test and non-test information in the general practice of counseling. Prerequisite: 421 or consent of instructor.

548-3 Vocational Psychology and Career Development. Introduces students to vocational psychology as an area of academic inquiry. The topics covered include theories of career development, occupational information, computer applications, research issues, and vocational counseling techniques. Prerequisite: 547 or consent of instructor.

549-3 Behavioral Assessment. A didactic and practicum course concerned with principles and methods of behavioral assessment including behavioral interviewing, questionnaires, self-monitoring, naturalistic and structured observation, and psychophysiological assessment.

551-3 Advanced Developmental Psychology I. Studies current research trends in experimental child psychology: an introduction to methods and theory, the biological bases of development, infancy, cognition, perceptual development, and language. Prerequisite: consent of instructor.

552-3 Advanced Developmental Psychology II. Consideration of current methods, research, and theory in developmental psychology with particular attention to social and personality development, and parent-child relations. Prerequisite: consent of instructor.

554-3 Developmental Theories. An analysis of contemporary theories of development and related research as they are derived from major historical theories of development. Prerequisite: 551 and consent of instructor.

555-3 Language and Cognition. Current theoretical problems in language and cognitive developments are investigated from the

perspective of psychology; physiology, linguistics, and computer simulations. Prerequisite: consent of instructor.

556-3 Child Psychotherapy. Survey and analysis of traditional and contemporary approaches to individual child psychotherapy. Includes psychodynamic, humanistic-nondirective, hypnotherapy-imagery, and other perspectives as well as therapy outcome research. Prerequisite: consent of instructor and psychology graduate status.

557-3 Family Psychotherapy. Investigation of the psychosocial interior of the family. Evolution and dynamics of interaction in families. Study of the methods of therapeutic intervention with families. Prerequisite: consent of instructor and psychology graduate status.

558-3 Personality and Social Development of Adults. A lecture-discussion course which presents the major theoretical and empirical literature in the area of adult personality and social development. Students are encouraged to apply normal developmental constructs to understand individual adults, as well as to gain competence in research methods in this area. Prerequisite: psychology graduate student or consent of instructor.

559-3 Behavioral Child Therapy. Survey and analysis of behavioral and cognitive-behavioral approaches to the treatment of child psychopathology. Prerequisite: consent of instructor and psychology graduate status.

564-3 Program Evaluation: Experimental and Quasi-Experimental Approaches. Review of experimental and quasi-experimental designs for assessment of program impact. Discussion of design, logistic, and political implementation problems. Detailed examination of a number of attempts at program evaluation. Prerequisite: 500-level statistics course.

569-1 to 3 Applied Research Consultants. Consulting firm which provides applied research experiences for advanced graduate students on planning, data gathering, evaluation, and decision making projects for units of university and area agencies and businesses. Students exercise decision making power in all aspects of the firm: project solicitation, fee setting, expenditures. Prerequisite: 571 or consent of instructor. Graded *S/U* only.

571-6 (2,2,2) Proseminar in Applied Experimental Psychology. A survey of the problem areas to which applied experimental psychology is applicable and of the principal methods employed by applied experimental psychologists. Integration of these approaches within a comprehensive metatheory. Case studies apply the information to actual and simulated application problems.

576-3 Human Engineering. Analysis of human-machine systems, human factors in the design of display and control systems, limitations and capabilities of the operator. Lecture and research or field study. Prerequisite: consent of instructor.

585-1 to 18 Advanced Seminar. Seminars of varied content for advanced students. Prerequisite: consent of instructor.

590-1 to 12 Readings in Psychology.

Readings in selected topics in psychology under staff supervision. Graded *S/U* only. Prerequisite: consent of instructor.

593-1 to 24 Research in Psychology. Research under staff supervision in selected areas of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

594-1 to 16 Practicum in Psychology. Practicum experience in a professional setting is offered under staff supervision in the following areas: (a) applied experimental psychology; (e) clinical psychology; (f) counseling psychology; (j) child psychology; (l) teaching of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

595-1 to 12 Internship. Placement in an approved setting required of all students in clinical, bio-clinical, and counseling psychology. Graded *S/U* only. Prerequisite: psychology graduate student.

596-3 Behavior Therapy Practicum. Practicum experiences with a variety of behavior therapies in a variety of settings. Experiences may include operant and nonoperant therapies in the clinic, school, institution, home, or community. Prerequisite: 534, 549.

597-1 to 15 Preprofessional Training. Experience given in research, teaching, or clinical or counseling activities. One hour required each semester of residence. Graded *S/U* only. Prerequisite: psychology graduate student.

598-3 Ethical and Professional Problems in Psychology. The code of ethics in professional practice, in teaching and research; problems and issues of the field are discussed; and relations to other professions and the public are considered. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 24 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Radio-Television

Graduate work in the Department of Radio-Television is offered toward the Master of Arts degree in telecommunications. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

430-2 News and Public Affairs Programming. Examination of history and scope of news and public affairs programming. Effects of public affairs on programs and audiences.

Responsibility of radio and television stations in news and public affairs and community relations. Issues in news and public affairs including ethics. Prerequisite: senior standing.

453-2 Educational and Public Broadcasting. The history and regulatory structure of educational and public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in educational and public broadcasting considered. Prerequisite: C in 300M and 300P, 308, and senior standing.

465-3 Advanced Television Production. Instruction and practical experience in the development of programming for television resulting in completed segments for broadcast in individual and series production. Students will utilize the facilities of the Broadcasting Service and produce programming for WSIU-TV. Not for graduate credit. Prerequisite: 365 and consent of instructor.

467-3 Radio-Television in International and Agricultural Development. An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communication in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: C in 300M and 300P and senior standing.

470-3 Television News Field Production. Advanced field reporting for television. Students will work under the supervision of the instructor to develop, investigate, and report news stories for television. This process will also study the development and production of the mini-documentary. Class will utilize 3/4 inch video recorders, cameras, and editing systems. For undergraduate students only. Prerequisite: 370 or consent of instructor.

473-4 Radio-Television Management Principles. Management history, management styles and systems, sales management (marketing and developing sales packages), maximizing inventory, sales training, gamesmanship, leadership and financial skills; policies, procedures, and objectives of broadcast management. Students will be required to prepare: audience analysis for sales and programming; computer inventory reports; and marketing strategies. Not for graduate credit. Prerequisite: 351 and 377 or consent of instructor.

481-3 Non-Broadcast Television. An examination of the special requirements of business, industrial, and medical uses of television. Management, budgeting, planning, and evaluating productions. Exploration of cable television, satellites, and other technologies used in non-broadcast situations. Prerequisite: 325, 365, or consent of instructor and senior standing.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama, and children's programming. Prerequisite: senior standing and 340; and 310 or 383 and consent of instructor.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: C grade in 300M, 300P, and consent of instructor.

491-3 Independent Study. Areas to study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

500-3 Introduction to Telecommunications. Salient issues and prevailing trends in telecommunications. Introduction to telecommunications research methods with special attention given to the preparation of thesis proposals. Required for all graduate students in telecommunications.

510-3 Telecommunications Programming. Designed to train advanced students in programming strategies for telecommunications. Includes analysis of audience needs. Analysis and interpretation of program ratings. Analysis of program formats and programming strategies.

530-3 International Telecommunications. Thorough examination of telecommunications systems in other countries. Explores telecommunications across national borders and the role of telecommunications in developing countries.

532-3 Telecommunications Research. Techniques of general audience research used in the telecommunications industry, such as Nielsen, Arbitron, and other audience research operations. Emphasizes research design, construction of survey instruments, and implementation of audience research projects. Required for all graduate students in telecommunications.

570-3 Aesthetics of Telecommunications. Development of critical criteria and application of methods of analysis by which the content, aesthetic elements, and forms of television programs are objectively evaluated. Extensive reading in critical literature and several critical analyses are required.

571-3 Telecommunications Policy. Study of the history and development of telecommunications policy. Broad issues in policy are discussed, including policy relating to telecommunications management and international telecommunications. Legal research techniques are emphasized. Extensive readings required.

573-3 Telecommunications Management. Theoretical perspectives in telecommunications management. Includes examination of the organization and management of commercial and non-commercial telecommunications organizations, with an emphasis on leadership theories and techniques. Required for all graduate students in telecommunications.

580-3 Telecommunications Technology. Ongoing examination of new and emerging communication technologies, analyses of their perceived uses and potential. Creative or theoretical research required. Required for all graduate students in telecommunications.

589-3 Telecommunications and Society. The study of effects of telecommunications on various segments of society. Group and individual investigation into research methodology and literature on effects.

591-3 Individual Study in Telecommunications. Supervised research or independent investigative projects. Area of study should be determined by student in consultation with adviser and committee.

595-3 Advanced Seminar: Telecommunications. Advanced research and discussion of specialized issues in telecommunications.

598-1 to 3 Research Report. One to three hours required of all nonthesis students writing a research paper and engaging in a companion creative project. Graded *S/U* only.

599-1 to 6 Thesis. Thesis requirements may be satisfied only by a traditional written thesis. Maximum of six hours may be counted toward degree requirements.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Recreation

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. (Same as Agriculture 401.)

423-3 Environmental Interpretation. (Same as Agriculture and Forestry 423.)

425-3 Planning and Design of Recreational Sites. An examination of master plans for outdoor areas used in school and recreation programs. Principles of masterplanning and practical experience with the master plan will be correlated. Prerequisite: senior or graduate standing.

440-15 (3,3,3,3,3) Recreation Activities for Special Populations. Students will be made aware of problems and characteristics of special population groups. Emphasis is upon the role of therapeutic recreation with these groups in institutional and community settings: (a) Recreation for the mentally ill and emotionally disturbed. (b) Recreation for the mentally retarded. (c) Recreation for the aged. (d) Recreation for the socially deviate. (e) Recreation for the physically disabled. Prerequisite: 300, 302, 303, or consent of department.

445-3 Outdoor Recreation Management. Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs, and environ-

ment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303, or consent of department.

460-3 Therapeutic Recreation Management. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons, and other institutions. Emphasis on programs for special populations in the community setting. Prerequisite: 300, 302, 303, or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy, and nature of systems, systems analysis, program implementation, and program evaluation. Prerequisites: 300, 302, 303, one section of 440, or consent of department.

462-3 Facilitation Techniques in Therapeutic Recreation. Study of concepts of leisure counseling as applied to special populations; leisure education models; facilitative techniques including gestalt awareness, transactional analysis, reality therapy, behavior modification, non-verbal communication, values classification, assertive training, rational emotive therapy, and relaxation therapy. Prerequisite: 303, one section of 440.

465-3 Advanced Administrative Techniques. Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.

475-1 to 24 (1 to 4 per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) commercial, (b) group dynamics, (c) outdoor education, (d) outdoor recreation, (e) mentally retarded, (f) emotionally disturbed, (g) campus recreation services, (h) tourism, (i) aging, (j) prisons and detention centers, (k) physically handicapped, (l) budget and finance, (m) liability, (n) maintenance of areas and facilities, (o) personnel. Critical examination and analysis of innovative programs and practices in the maintenance of grounds and facilities. Maximum of six hours to count toward master's degree.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor. GPA of 2.25 required.

490-1 to 12 Internship in Recreation. Supervised practicum experience in a professional recreation setting. Emphasis on administrative, supervisory, teaching, and program leadership in the student's area of specialization. For undergraduate credit only. Must be taken during student's senior year. Prerequisite: students must have completed all requirements for the degree in recreation or receive consent of the REC 490 coordinator. 2.25 GPA required.

500-3 Principles of Recreation. Principles and interpretation of recreation and the basic concepts underlying the organization of leisure activities. Emphasis on cultural significance of recreation and the relationship of recreation to the totality of life. Required of all majors.

520-3 Park and Recreation Management. Basis for planning recreation programs and facilities. Administrative problems dealing with legislation, finance, and budget, public relations, office management and personnel are discussed in terms of effective professional management. Prerequisite: 500 or concurrent enrollment or consent of instructor.

524-3 Professional Skills in Therapeutic Recreation. This course focuses on professional skills necessary at the administrative and supervisory level. Program and staff development, conference presentations, and inservice training, grantsmanship, article writing, budgeting, consultation, and public relations comprise the core of the course. Prerequisite: 460, 461, or consent of department.

525-3 Recreation for Special Populations. Planning, organizing, selecting, evaluating, and adapting activities to a variety of institutional and community settings. Prerequisite: 500 or consent of department.

526-3 Seminar in Current Issues in Therapeutic Recreation. This course focuses on current issues in therapeutic recreation services including credentialing, accreditation, professional associations, legislation, research, and other relevant issues. Prerequisites: 524 or consent of department.

530-3 Programs in Recreation. Program planning, organization, and implementation of leisure programs in a variety of recreation settings and for a variety of population groups. Prerequisite: 500 or concurrent enrollment or consent of instructor.

550-3 Research in Recreation. Critical analysis of the most significant research studies in park and community, special populations, commercial and outdoor recreation. Prerequisite: 530.

560-6 (2,2,2) Seminar in Recreation. Major issues, trends, and cultural, economic and social significance in (a) park and community, (b) special populations, and (c) commercial recreation. Prerequisite: 500 or consent of department.

565-3 Seminar in Environmental and Outdoor Education. Discussion of individual projects, presentation of research problems and dissertation topics. Prerequisite: consent of instructor.

570-3 Seminar in Recreation Management. An integrated seminar dealing with the problems involving park and community, commercial, institutional, outdoor, church, school, and other recreation settings and populations. Current economic and social changes will be examined to determine their influence on the recreation profession. Required of all majors. Prerequisite: 520 and 530.

575-1 to 6 Individual Research. Selecting,

investigating, and writing of a research topic under the personal supervision of a member of the department. Designed to help the student to develop ability to design, conduct, analyze, and interpret research related to the problem of leisure. Not more than three hours may count toward master's degree. Prerequisite: consent of instructor.

580-1 to 6 Readings in Leisure and Recreation. Readings in selected topics in leisure and recreation under staff supervision. Not more than three hours may count toward master's degree. Prerequisite: consent of instructor.

596-1 to 6 Field Work in Recreation. Field work in an approved recreation department. Field work is in the student's field of interest. Supervision under approved agency officer in charge and a member of the department. Prerequisite: major in recreation and permission of the department.

599-1 to 3 Thesis. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Rehabilitation

Courses in this unit may require the purchase of supplemental materials not to exceed \$10 per course. Field trips are required for certain courses.

400-2 to 3 Introduction to Rehabilitation. An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: Students can enroll in the didactic portion for two credits, or three credits if they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.

401-3 Rehabilitation for Non-Majors. An introduction to the process and practice of rehabilitation for students not majoring in this field. An overview of counseling, evaluation, physical restoration, adjustment services, job placement, and rehabilitation administration will be presented. Also a survey of client characteristics will be provided. Clients with sensory, physical, developmental, and psychiatric disabilities will be discussed. Career opportunities in rehabilitation will be examined.

402-1 to 3 Human Development and Behavior. Examines theories and systems of human development, personal behavior patterns, and learning principles related conceptually to rehabilitation processes and practices. Prerequisite: consent of instructor.

403-3 Independent Living Rehabilitation. Survey of principles and methods of independent living for the handicapped with attention to client assessment for rehabilitation, effective techniques for specific handicapped groups, and the variety of types and organization of independent living programs.

406-3 Introduction to Behavior Analysis and Therapy. A survey of the principles and procedures in behavior analysis and therapy and the scope of its application to human needs and problems.

419-1 to 3 Cross-Cultural Rehabilitation. (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.

421-3 Vocational Development and Placement. Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: consent of instructor.

425-1 to 6 Developing Employment Opportunities. Designed to train rehabilitation personnel in the attitudes, methods, and skills pertinent to placement of handicapped persons in competitive and other occupations. Prerequisite: special standing and consent of instructor.

431-3 Assessment Procedures in Rehabilitation. Review of fundamental bases of measurement, criteria for evaluating tests, practice with representative instruments in major categories, and the use of tests and work samples in assessing the handicapped's functioning abilities and work potential. Prerequisite: consent of instructor.

436-3 to 4 Vocational Evaluation and Adjustment Services. Introduction to the philosophies of evaluation and adjustment services in rehabilitation settings with emphasis on the rationale for use of psychometric testing, functional behavioral analysis, work sampling, situational assessment, and on-the-job evaluation in relation to the development of individualized adjustment service programs.

445-3 to 12 Rehabilitation Services with Special Populations. Procedures and programs pertinent to the care and treatment of special populations. Two semester credits will ordinarily be granted for each unit. (a) -9 (3, 3, 3) Alcohol and Drug Abuse. (b) -9 (3, 3, 3) Emotionally Disturbed. (c) -9 (3, 3, 3) Juvenile Offender. (d) -9 (3, 3, 3) Mental Retardation. (e) -9 (3, 3, 3) Physically Disabled. (f) -9 (3, 3, 3) Public Offender. (g) -9 (3, 3, 3) Sensory Disabled. (h) -9 (3, 3, 3) Developmental Disabilities. Prerequisite: consent of instructor.

446-3 Psychosocial Aspects of Aging. Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion

and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community, and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course. Prerequisite: consent of instructor.

447-3 Biomedical Aspect of Aging. The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

451-3 to 4 General Rehabilitation Counseling. A didactic and experiential analysis of the underlying premises and procedures of individual and group counseling in rehabilitation settings. Prerequisite: consent of instructor.

452-3 Behavior Change Applications. An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools, and communities are surveyed. Prerequisite: 406 or consent of instructor.

453-1 to 4 Personal and Family Life Styling. The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

461-3 Introduction to Alcoholism and Drug Abuse. Orientation and introduction to a variety of topics related to alcohol and drug abuse; surveys history, theories of cause and development, consequences of abuse, classes and types of drugs, legislation, and other current issues relating to substance abuse and addiction.

468-3 Sexuality and Disability. Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

471-3 Rehabilitation and Treatment of the Alcohol and Drug Abusers. A comprehensive examination of substance abuse treatment and rehabilitation; focus on various treatment approaches, treatment settings, and types of counseling to include an overview of individual, group, and family techniques. The rehabilitation counselor's role is addressed as well as necessary skills in treating

drug and alcohol abusers. Prerequisite: 461 or consent of instructor.

479-3 Technical Writing in Rehabilitation. Fundamentals of writing skills for rehabilitation specialists, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases, and other publicity materials. Prerequisite: consent of instructor.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experiences in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for graduate degree, only one or the other can satisfy requirements toward a master's degree. Prerequisite: consent of department.

501-3 Rehabilitation Foundations. Focuses upon facilitative interpersonal communication skills necessary in rehabilitation practice. The course provides theory and practice in facilitative interpersonal communication in counseling, behavior therapy, and administration and services. Prerequisite: consent of instructor.

503-3 Basic Behavior Analysis. Philosophy, terminology, and basic methodology of experimental and applied behavior analysis. Focuses on a variety of operant and respondent conditioning procedures for shaping new behaviors and modifying established behaviors. Prerequisite: consent of department.

504-3 Foundations of Rehabilitation Research. This course includes: the logic of scientific inquiry; the concepts of research questions and hypotheses; the notion of variables; the relationship among theoretical constructs, operationalism, and measurement instrument reliability and validity; the concepts of control, internal validity, and casual inference; sampling methods and external validity; and experimental and descriptive research. Prerequisite: enrollment in Rh.D. degree program or consent.

508-3 Complex Behavior Analysis. Experimental analysis of procedures that result in acquisition, maintenance, and attenuation of complex individual and social behavior. Prerequisite: consent of instructor.

509-6 (3,3) Behavior Analysis Research Designs. Focuses on behavior analysis research design and methodology. Three semester hours will be granted for each unit. (a) Single subject experimental designs, (b) group experimental designs.

512-3 Legal and Ethical Issues in Behavior Analysis. Focuses on federal and state legislation, litigation, policies, guidelines, and other forms of legal and ethical control of the professional practice of behavior analysis and therapy. Implications for research and service will be discussed.

513-1 to 4 Medical and Psycho-Social Aspects of Disability. A review of the impact of disease and trauma on the human system with special attention on the effects physical limitations and socio-emotional correlates have on human functioning and the rehabili-

tation process. Prerequisite: consent of department.

515-3 Behavioral Applications to Medical Problems. Examines the use of behavior change procedures and applied behavior analysis in the treatment and rehabilitation of medically related problems such as obesity, alcoholism, headaches, hypertension, and cerebral palsy; also, compliance to medical regimens, e.g., diabetes, dental hygiene, exercise; and promotes the utilization of health facilities and community health programs. Issues in training medical personnel to disseminate behavior change programs are also covered. Prerequisites: 409 and 503 or consent of instructor.

523-3 Job Restructuring for the Handicapped. Introduction to the analysis and measurement of job tasks and the design and layout of work environments with special emphasis on the use of jigs, job restructuring, and prosthetic environments for the handicapped. Prerequisite: 421 and consent of instructor.

525-3 Developing Job Readiness. Designed to prepare job development and placement specialists and other rehabilitation personnel to develop programs of job readiness aimed at training individuals with handicapping conditions to seek and hold gainful employment. Prerequisite: consent of the instructor.

526-3 Issues in Supported Employment. Focuses on community work options for adults with severe disabilities. These community work options, supported work and supported employment, the issues surrounding transition from school to work, and the difference between sheltered and nonsheltered employment will be discussed from philosophical and practical viewpoints.

531-3 Individual Assessment Procedures in Rehabilitation. Thorough familiarization and practice with independent assessment devices used in program selection and job placement of individuals with various handicaps. Prerequisite: 431 and consent of instructor.

533-3 Vocational Appraisal. An extensive exposure to instruments designed for use with vocational rehabilitation clients. Administration and interpretation of a wide variety of instruments used to gain information to be used in planning for vocational development. Both didactic and experiential to include consideration of information obtained from interviews, tests, and other diagnostic techniques. Prerequisite: consent of instructor.

535-3 Behavioral Observation Methods. Behavioral targeting, observational recording techniques, and issues of validity and reliability of measurement relevant to rehabilitation will be examined. Prerequisite: previous or concurrent enrollment in either 409, 452, or 503, or consent of instructor.

543-3 Child Behavior. A systematic analysis of child behavior. Included is an examination of popular books on child rearing. Emphasizes approaches for remediation of behavior disorders. Prerequisite: consent of instructor.

545-3 Behavior Modification in Mental

Retardation. Consideration of behavioral principles as applied in the development of responsive behavior in mentally retarded persons. Prerequisite: consent of instructor.

553-3 Learning Therapies for Special Populations. Describes treatment, rehabilitation, and teaching procedures with the emotionally disturbed, problem drinkers, mentally retarded, and autisms and other disruptive behaviors. Prerequisite: consent of instructor.

554-3 Behavior Therapy. Considers research findings and basic principles of behavior modification relative to such behavior therapies as desensitization, assertive training, aversive conditioning, and behavior rehearsal. Prerequisite: consent of instructor.

557A-3 Self-Regulation of Behavior: Self-Control. The course provides a thorough review of self-control techniques and their application to habit disorders such as smoking, eating, exercise, time-management, and nervous habits. Prerequisite: consent of instructor.

557B-3 Self-Regulation of Behavior: Biofeedback. The course provides a comprehensive review of experimental and clinical studies of biofeedback. It concentrates on stress related disorders and provides supervised laboratory experience. A \$10 laboratory fee is charged. Prerequisite: consent of instructor.

558-3 Rehabilitation of Special Alcoholic and Drug Abusing Populations. Emphasis is on the characteristics, assessment, rehabilitation, and unique problems of drug and alcohol abusers within specific populations. Particular attention is given to substance abuse of women, minorities, elderly, adolescents, homosexuals, and disabled. Prerequisite: 461 or consent of instructor.

560-3 Private Sector Rehabilitation. A comprehensive introduction to many of the unique characteristics of rehabilitation services offered within the private-for-profit sector which can be applied by practitioners on a national basis.

561-3 Rehabilitation and the Courts. The role of the rehabilitation worker in a variety of court proceedings will be explored. Emphasis will be on Social Security disability and workmen's compensation cases. The course will involve review of evidence and preparation for testimony. There will be opportunities for mock trials and observation of actual legal proceedings. Some field trips may be required.

562-3 Rehabilitation Facilities and Developmental Centers. Surveys the history and development of rehabilitation facilities and developmental centers for the handicapped and then focuses on current principles and practices of these facilities in terms of nature, classification, objectives, standards, philosophies, theories, programs of services, organization, administration, financing, and trends for the future. Prerequisite: consent of instructor.

563-3 Behavioral Analysis: Community Applications. All aspects of behavior analysis applications in the community are examined including historical development, the

"state of the art", practical issues, and obstacles to conducting behavioral analysis/community research; future trends and directions. Prerequisite: 503 or consent of instructor.

564-3 School Related Behavior. Analysis of student and teacher behavior and the behavioral methods of improving teaching and learning. Prerequisite: consent of instructor.

565-3 Private Practice Rehabilitation. An examination of the establishment of a private rehabilitation practice. How to set up a private practice, the do's and don'ts, and attracting and keeping business are detailed. Knowledge concerning how insurance companies evaluate rehabilitation facilities is critical.

566-3 Alcoholism, Drug Abuse and the Family. The family system model is emphasized as a rehabilitation procedure for drug and alcohol abuse. Examines etiology of drug and alcohol abuse, assessment procedures, treatment and rehabilitation, and associated problems such as spouse or child abuse, divorce, and incest from a family context. Prevention techniques are additionally covered. Prerequisite: 461 or consent of instructor.

568-3 Sexual Behavior and Rehabilitation. Consideration of human sexual behavior including basic anatomy and physiology; sexual facts and fallacies; and analysis of sexual inadequacies, variances, and deviances. Special emphasis is placed on the application of therapies for the rehabilitation of people with sexual problems. Prerequisite: consent of instructor.

570-3 Rehabilitation Administration. Problem solving approach to current issues in organizational structure and management functions in public and voluntary rehabilitation agencies, decision making, leadership, program development, and evaluation. Prerequisite: consent of instructor.

573-3 Programming, Budgeting, and Community Resources. Designed to prepare the student to develop and operate comprehensive or specialized rehabilitation programs with special attention to resource development, fiscal management, and community and public relations. Prerequisite: 570 or consent of instructor.

574-3 Staff Training and Development. This course prepares the student to design, implement, and supervise an institutional program to train staff in methods of direct service to the institution's clients. Each student will actually design and submit a program through simulation. Lecture/workshop format.

575-3 Case Management in Rehabilitation. Basic procedures in providing and coordinating available human services based on individual need in the context of a professional-client relationship, and the basics of recording and reporting such services. Prerequisite: consent of department.

576-2 to 3 Development and Supervision of Rehabilitation Employees. Current and progressive supervisory practices in rehabilitation with emphasis on employee development through in-service training, periodic

evaluation, and related methods. Prerequisite: consent of instructor.

578-3 Program Evaluation in Rehabilitation. An analysis of the development and utilization of a program evaluation system in rehabilitation settings with focus given to system design, monitoring techniques, and service program development. Students will be trained in the advanced practice of program evaluation techniques and their application to rehabilitation settings. Prerequisite: consent of instructor.

579-3 Advanced Fiscal Management in Rehabilitation. Application of fund and functional accounting in rehabilitation to include fiscal reporting and record keeping, fiscal planning, and management in rehabilitation. Prerequisite: 570 and 573.

580-3 Professional and Community Relations in Rehabilitation. Examination of the linkages and needs of rehabilitation programs and agencies in the area of community and professional relations, with special reference to the role of administrator. Application of marketing principles to the management of external relations in rehabilitation settings. Prerequisite: consent of instructor.

581-3 Professional Issues in Rehabilitation. Focus is on legal and ethical issues and issues related to legislative and public policy formulation. Implications for rehabilitation programs, practice, and research are emphasized.

582-1 to 4 Seminar in Rehabilitation Services. Special consideration of factors in the organization and management of rehabilitation services. Prerequisite: consent of instructor.

583-1 to 4 Seminar in Work Evaluation. Select attention to procedures/models for assessing work readiness of handicapped personnel. Prerequisite: consent of instructor.

584-1 to 6 (1 to 2 per semester) Seminar in Behavior Analysis and Therapy. Special topics and new developments in modifying human behavior. Prerequisite: consent of instructor.

585-1 to 4 Seminar in Counseling/Coordination Services. Consideration of special issues in counseling and delivery of services. Prerequisite: consent of instructor.

586-3 Seminar in Job Development and Placement. Consideration of special issues in job development and placement philosophy, techniques and research concerning individuals with handicapping conditions. Prerequisite: consent of instructor.

587-3 Seminar in Correlates of Disability. A systematic analysis of the behavioral socio-cultural implication of disabling conditions. Emphasizes the rehabilitation process in remediation of handicapping conditions. Prerequisite: 513 or consent of instructor.

588-3 Seminar in Research in Rehabilitation. Advanced seminar focusing upon specialized and advanced topics in research in rehabilitation. This course is designed to prepare doctoral students in rehabilitation with the special tools needed to carry out doctoral

dissertation and other advanced research projects. Prerequisite: consent of instructor.

589-1 to 18 (1 per semester) Professional Seminar in Rehabilitation. The course involves advanced level presentations focusing on current research, applied practices, and innovations in rehabilitation. Presentations are made by faculty, graduate students, and guest experts. A minimum of four semester hours required for Doctor of Rehabilitation degree.

591-1 to 18 Independent Projects in Rehabilitation. Systematic readings and development of individual projects in pertinent rehabilitation areas. No more than six hours may be counted toward the master's degree. Prerequisite: consent of instructor.

592-1 to 16 Professional Supervision in Rehabilitation. Experience provided in the supervision of research, teaching, and rehabilitation services. No more than four hours may be taken in any semester. Prerequisite: doctoral student in rehabilitation and consent of instructor.

593-1 to 18 Research in Rehabilitation. Systematic investigation of factors and procedures relevant to rehabilitation. No more than six hours may be counted toward the master's degree. Prerequisite: consent of instructor.

594-1 to 12 Practicum in Rehabilitation. Supervised experiences in agencies in rehabilitation. (a) Administration. Rehabilitation facilities management/supervision, in planning, programming, and evaluation. (b) (Same as Psychology 596.) Behavior modification. Application of behavioral analysis/methods in human treatment and in management. (c) Counseling. Development of counseling skills with individuals and groups to include work related functions. Prerequisite: consent of department.

595-1 to 12 Internship in Rehabilitation. Extended practice in rehabilitation settings cooperatively guided and supervised by agency staff and university faculty. Prerequisite: 594 and consent of department. Graded S/U only.

596-4 Research Design and Methodology in Rehabilitation. Manipulative and non-manipulative research methods, group and single subject designs, data analysis, and research evaluation pertinent to rehabilitation will be considered. Prerequisite: ESPY 506 or consent of instructor.

599-1 to 6 Thesis. Prerequisite: consent of instructor.

600-1 to 30 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Rehabilitation degree. Prerequisite: doctoral candidate in rehabilitation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Religious Studies

There is no graduate program offered through religious studies. Four-hundred-level courses in this unit may be taken for graduate credit unless otherwise indicated in the course description.

410F-3 Comparative Religion. (See Anthropology 410F.)

496-1 to 6 Honors Readings in Religion. Topics selected by student and instructor which ordinarily are not covered in depth in regular course offerings. Not available for graduate credit. Prerequisite: consent of department.

Science

500-2 Science Information Sources. Methods and procedures to efficiently exploit the scientific literature are discussed. The two-hour class discussion will be supplemented by practical exercises in library usage. Prerequisite: consent of instructor.

501-4 (2,2) Research Transmission Electron Microscopy. (a) Theory of design of electron microscope, lenses, vacuum systems, alignment, specimen preparation, and darkroom. (b) Practical experience in use of transmission electron microscope and specimen preparation.

502-4 (2,2) Research Scanning Electron Microscopy. (a) Theory of design for scanning electron microscope, lenses, vacuum systems, alignment, specimen preparation for biologists and materials scientists, darkroom. (b) Laboratory practical experience in use of scanning electron microscope and specimen preparation. Laboratory fee \$100.

503A-1 to 3 Science for Elementary School Teachers. In-depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include cells and simple organisms, characteristics of vertebrates, plate tectonics, solar system, nature of matter, and magnetism. Prerequisite: currently teaching in an elementary school.

503B-1 to 3 Science for Elementary School Teachers. In depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include human biology, characteristics of high plants, Earth's building blocks, the atmosphere, forces, and simple machines. Prerequisite: currently teaching in an elementary school.

504-1 to 3 Science for Primary School Teachers. In depth studies of selected basic concepts in general science for teachers of the primary elementary grades. Topics include diversity of life as revealed by animal and plant communities, state of matter, atomic

theory, sun and earth, and the atmosphere. Prerequisite: currently teaching in an elementary school.

Social Work

Black American Studies

There is no approved graduate program in black American studies.

Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

430-3 Black Political Socialization. Definitive approach to how people learn about politics focusing on Blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of instructor.

445-3 Ascriptive Politics: Gender, Race, Ethnicity. (See Political Science 451.) Not for graduate credit.

455-2 to 12 Rehabilitation Services with Special Populations.

465-3 Governments and Politics of Sub-Saharan Africa. (See Political Science 465.)

475-3 Sociological Effects on Black Education. A teacher-oriented course dealing with up-to-date research in Black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with Black children. Not for graduate credit. Prerequisite: EDUC 303 or consent of department.

480-4 to 8 (4,4) Seminar in Black Studies. Analyses of the black experience directed toward practical contributions in the area studied. Topics vary with instructor. May be repeated once for a total of 8 credits provided registrations cover different topics. Topics announced in advance. Prerequisite: GE-B 109 or consent of department.

490-1 to 3 Cross-Cultural Rehabilitation. (See Rehabilitation 419.) Not for graduate credit.

499-1 to 5 Special Readings in Black American Studies. Supervised readings for students with sufficient background. Registration by special permission only. Offered on demand. Prerequisite: consent of instructor.

Social Work

Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

400A-3 Human Behavior and the Social Environment. A social systems approach to the study of typical human development and behavior. Examination of environmental forces impinging on the individual and implications for social work practice. Not for graduate credit for social work majors.

400B-3 Human Behavior and the Social

Environment. A continuation of 400A. A social systems approach to the study of diverse/dysfunctional human development and behavior. Not for graduate credit for social work majors. Prerequisite: 400A.

401-4 Social Work Practice: Individuals and Families. An examination of problem solving interventions and environmental modifications skills for use with individuals and families. Prerequisite: 375, 383, 400A, and 400B or concurrent enrollment.

402-3 Social Work Practice: Small Groups. Examines social work group process with clinical and non-clinical groups. Leadership, roles, goal setting, and interventive strategies are addressed. Not for graduate credit. Prerequisite: 375, 383, 400A, and 400B or concurrent enrollment.

403-3 Social Work Practices: Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues. Prerequisite: 375, 383, 400A, 400B, 401, 402.

411-3 Methods of Social Research. Examines the principles, concepts, and methods of scientific investigation in terms of its application to social work research and practice. Not for graduate credit. Prerequisite: EPSY 402 or similar introduction to statistics course plus concurrent enrollment in either 401, 402, or 403.

421-3 Social Welfare Policy. This course provides an indepth examination of social welfare structure, functions, policy, and programs, as well as strategies for shaping and changing policy. Prerequisite: 375.

441-6 Social Work in Selected Agencies. At least 20 hours per week of supervised experience in an approved social work agency with concurrent weekly seminar. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 383, 391, 400A, 400B, 401, 402, 411; and a 2.5 grade point average in departmental prerequisites. Must be taken concurrently with 443. Mandatory Pass/Fail.

442-6 Advanced Field Practicum. Supervised field work experience in an approved social service agency with concurrently weekly seminar. At least 20 hours per week. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 383, 391, 400A, 400B, 401, 402, 403, 411, 421, and 441, 443 if not taken concurrently in a block placement; and a 2.5 graduate point average in departmental prerequisites. Must be taken concurrently with 444. Mandatory Pass/Fail.

443-1.5 Field Practicum Seminar. The seminar assists the student who is in the field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences; practice issues related to social work principles,

ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 441. Mandatory Pass/Fail.

444-1.5 Advanced Field Practicum Seminar. The seminar assists the student who is in the field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences; practice issues related to social work principles, ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 442. Mandatory Pass/Fail.

450-1 to 6 (1 per topic) Seminar in Special Issues for Social Work. (a) Practice. (b) Policy and planning. (c) Public welfare services. Topic will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours. Prerequisite: junior standing and consent of instructor.

461-3 Child and Family Services. Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Not for graduate credit. Prerequisite: consent of instructor.

463-2 Social Work with the Aged. Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged. Prerequisite: consent of instructor.

466-3 Public Policies and Programs for the Aged. An introduction to public policy, program, and planning for the aged. A framework is utilized for analyzing policy issues, programs, and research in such areas as income maintenance, long term care, transportation, leisure time, housing and social services in order to aid present and future practitioners who work with the aged. Prerequisite: consent of instructor.

489-3 Field Service Seminar. (Same as Community Development 489.) This seminar is to be taken concurrently with 495 or CD 495. Prerequisite: consent of instructor.

495-1 to 6 Advanced Field Service Practicum in Southern Illinois. (Same as Community Development 495.) This course is directed at upperclassmen and graduate students volunteering service to community, social service, or health agencies in southern Illinois. Credit based on time spent in direct service. Approval of agency required for registration.

496-1 to 6 Independent Research in Social Work. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

500-3 Human Behavior and the Social Environment I. Examination of the theoretic-

cal basis of the development and interrelational aspects of individuals. Normal developmental stages and impacts of social systems on the growth of individuals are emphasized. Prerequisite: admission to program.

501-3 Human Behavior and the Social Environment II. Behaviors as affected by organizational, community and environmental stressors across the life span are discussed. By comparing normal expectations of development and coping, leverage points of social work intervention are identified. Prerequisite: 500.

502-3 Perspectives on Human Behavior and the Social Environment: Group, Community, and Organizational Influences. Selective examination of behaviors as affected by group, community, organizational, and environmental stressors across the lifespan and implications for social work intervention. Prerequisite: admission to advanced standing.

503-3 Foundations of Social Work Fields of Concentration. Advanced practice knowledge and skills including field experiences and lecture series relevant to the student's field of concentration. Prerequisite: advanced standing.

504-2 Ethnic Diversity and Social Work Practice. Examination of problem solving mechanisms unique to various ethnic groups and identification of their inherent resources for ameliorating or coping with personal, familial, or community problems. Implications of these characteristics to social work practice are discussed. Prerequisite: admission to program.

505-3 Foundations of Social Work and Services. Examination of both historical and philosophical developments of the social welfare system as an institution and social work as a profession in the United States. Future trends in social work education and practice are predicted based on social and political mentality prevailing at present time. Prerequisite: admission to program.

506-2 Social Welfare Policy Analysis and Design. Development of a basis for professional social worker's formulation and analysis of social welfare policy and services. Generic principles of policy development and analysis are examined in philosophical and sociopolitical contexts. Roles of the social work profession in the process of policy making are identified and examined. Prerequisite: 505.

510-3 Social Work Practice I. This course provides foundation knowledge about social work process, methods, and skills appropriate for practice with individuals, families, and groups. Prerequisite: admission to program.

511-3 Social Work Research. This course emphasizes the importance of scientific inquiry within social work practice and covers the application of basic concepts of research methodology to social work including problem formulation, research design, sampling, measurement, and data analysis. This includes research approaches that may be used in the evaluation of one's own practice. Prerequisite: admission to program.

512-3 Research Design/Theory Building. Selective examination of inductive and deductive methods in social work knowledge building. Included are tools relevant to evaluating programs and one's own practice. Prerequisite: admission to advanced standing.

520-3 Social Work Practice II. Foundation practice focusing on process, methods, and skills for work with groups, communities, and organizations. Prerequisite: 510.

522-3 Social Welfare Policy Development and Analysis. Selective examination of the historical, philosophical developments of the social welfare system and social work as a profession in the United States. Generic principles of policy development and analysis are identified and examined. Prerequisite: admission to advanced standing.

530-2 Social Work Practice III. Integrated and eclectic approaches to direct social work practice with individuals, families, and small groups. Appropriate clinical theories particularly relevant to working with populations-at-risk (including teenage parents, single parents, the economically deprived, minority populations of color, etc.) are examined. Prerequisite: 520 or completion of foundation courses in Plan B.

531-4 (2,2) Selected Topics in Advanced Social Practice I. (a) Psychopathology for social work practice focusing on advanced and in-depth knowledge of clinical social work practice models, definitions of dysfunctional behavior, and classification of abnormal functioning. Prerequisite: completion of foundation or transition courses. **(b)** Substance abuse and social work practice focusing on in-depth knowledge of social work assessment of both individuals and families involved in substance abuse. Students are provided with advanced knowledge and skills in various social work intervention models applicable to the area of substance abuse. Lastly, special needs of diverse populations are addressed. Prerequisite: completion of foundation or transition courses.

532-2 Evaluative Research Practicum. Design and conduct evaluative research individually or collectively. A written critical scientific evaluation of a macro program from the perspective of efforts, efficiency, effectiveness, cause-effect relationship, or adequacy is required. Prerequisite: 511 or 512.

533-2 Social Work Practice in the Schools. In-depth examination of the history and practice of social work in primary and secondary schools. Roles of school social workers and practice approaches are emphasized. Prerequisite: completion of foundation or transition courses and admission to the School of Social Work certification program.

535-2 Legal Aspects of Social Work Practice. Examination of law and legal procedures that relate directly to social work practice in general. Legal perspectives of a specific concentration field of practice are discussed in depth. Prerequisite: completion of foundation courses in Plan A or B.

540-2 Social Work Practice IV. Introduction to macro approaches to problem solving

and to the assessment of social systems particularly large groups, communities, and organizations. Group facilitation, social engineering, development and utilization of resources, social planning, and administration are emphasized. Prerequisite: 530.

541-4 Social Work Practicum I. Educationally directed on-site field practice with concurrent seminar. Practicum is equivalent to two days per week for 15 weeks and seminar meets once per week for two hours. Graded *S/U*. Prerequisite: admission to program.

542-4 Social Work Practicum II. Second educationally directed on-site field practice with concurrent seminar. Continuation of 541. Graded *S/U*. Prerequisite: 541.

543-6 Social Work Practicum III. Concentration specific in an approved agency with appropriate supervision. Practicum will be equivalent to three days per week for 15 weeks with a concurrent seminar. Graded *S/U*. Prerequisite: 542.

544-6 Social Work Practicum IV. A continuation of the concentration specific practicum of three days in the field for 15 weeks with a concurrent seminar. Graded *S/U*. Prerequisite: 543.

546-4 (2,2) Selected Topics in Advanced Social Work Practice II. (a) Advanced knowledge and skills particularly useful for leadership positions in the social work profession. Specific topics to be determined by the school identifying students' academic needs. Prerequisite: completion of foundation or transition courses. (b) Social work management and supervision focusing on social service organizations. Student is provided with theories, models, and techniques of modern human services management and supervision with application to case materials. Prerequisite: completion of foundation or transition courses.

550-2 Social Work Practice in Health and Mental Health Settings. Examination of social and emotional impacts of illness and death on individuals. Implications of physical and mental disorders to social work practice are discussed with particular emphasis on cultural, racial, religious, gender, and other psychosocial aspects of illness. Prerequisite: completion of foundation courses in Plan A or B.

555-2 Impacts of Health/Mental Health Policy and Programs on Social Work Practice. Introduction to health and mental health public policies and programs in the United States. Prerequisite: completion of foundation or transition courses.

556-6 (3,3) Health and Mental Health Practice. (a) Knowledge and skills useful for social work practice in the field of health and mental health. This course will focus on social work practice with physical and mental illness in health and mental health settings. Prerequisite: completion of foundation or transition courses. (b) Knowledge and skills useful for social work practice in the field of health and mental health, focusing on social work practice with acute and chronic illness in health and mental health settings. Prerequisite: completion of 556a.

557-2 Community Mental Health and the Black Community. Introduction to clinical techniques useful for facilitating community functions and changes within the context of the Black experience. An exploration of the culture of the Black community builds the basis for community mental health service strategies. Prerequisite: completion of foundation courses in Plan A or B.

558-2 Women and Community Mental Health. Examination of mental health problems of American women and exploration of effective interventive strategies. Prerequisite: completion of foundation courses in Plan A or B.

559-2 Aging and Mental Health. Examination of the nature and etiology of mental health problems facing older Americans and review of research reports to build a theoretical basis for mental disorders. Prerequisite: completion of foundation courses in Plan A or B.

560-2 Social Work Practice with Children and Youth. Advanced level of knowledge and skills that are relevant to the prevention and amelioration of problems related to maladaptive parent-child interaction, parental inability to provide child care, parents' unrealistic expectations of a physically and mentally limited child. Prerequisite: completion of foundation courses in Plan A or B.

565A-2 Child Welfare Policy and Program Issues. Examination of child welfare policies and programs in terms of adequacy and effectiveness. Organizations of child advocacy and politics of American families are reviewed. Prerequisite: completion of foundation or transition courses.

565B-2 School Social Work Policy and Program Issue. Analysis of the school as a social system with attention to the rights and responsibilities of its personnel and citizen clients and assessment of law and public policy regarding education as a continuum from preschool to post high school. Prerequisite: 560.

566-6 (3,3) Child Welfare Practice. (a) Knowledge and skills useful for social work practice in the field of child welfare. The course focuses on in-home services to families and children. Prerequisite: completion of foundation or transition courses. (b) Knowledge and skills useful for social work practice in the field of child welfare and family services. The course focuses on substitute care for children who are not in their homes. Prerequisite: completion of (a).

567-2 Seminar in School Social Work. Exploration of policies, programs, practice, and legislative trends affecting public service in school social work. Prerequisite: 533.

570-2 Gerontology and Social Work. Examines the major psychosocial and ecological theories of human ageing within the value framework of social work practice. Extrapolations of those theories and application of them to social work practice and research are emphasized. Prerequisite: completion of foundation courses in Plan A or B.

575-2 Policy and Program Issues of Aging. Examination of public policies that impact on the quality of life of the elderly. Major actors and their effectively exerted advocacy strategies are identified and evaluated. Future policy issues are discussed. Prerequisite: 570.

576-1 to 6 Selected Topics in Aging Policy and Program Issues. Examination of selected knowledge and skills useful for gerontological social work practice. In-depth study on specific topics will be conducted. Prerequisite: 570.

577-1 to 4 Selected Topics in Research Methodology. Exploration and actual use of computer programs for social work data analysis. Graded *S/U*. Prerequisite: 532.

578-2 International Social Work. Discussion of nature and scope of international social services including social welfare problems of the world. Review of welfare programs in the Third World countries and of social service programs in the developed countries. Prerequisite: completion of foundation courses in Plan A or B.

598-1 to 4 Social Work Research Paper. Preparation of a final research paper as partial requirement for the M.S.W. degree. Graded *S/U* only. Prerequisite: completion of foundation or transition courses and approval of the school.

599-3 Thesis in Social Work. A partial and optional requirement for the M.S.W. degree. A written report of the student's research project in the area of concentration. Prerequisite: completion of all foundation courses in Plan A or B and departmental approval. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Sociology

406-4 Social Change. Theories and problems of social change; their application, with emphasis on the modern industrial period.

412-4 American and Soviet Society. A sociological perspective on American and Soviet society. Combines a macroscopic analysis of major social institutions with microscopic examination of everyday life; shows how each social system molds human personality and how socially acquired habits reinforce the social system. Designed to meet the needs of students interested in comparative and political sociology as well as those searching for an understanding of the problems of the two super powers. Prerequisite: none; 301 recommended.

415-3 Logic of the Social Sciences. (See Philosophy 415.)

423-4 Sociology of Gender. (Same as Wo-

men's Studies 442.) This course examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro-level, in work and family roles, in social institutions and at the global, cross-cultural level.

424-4 Social Movements and Collective Behavior. A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society.

426-4 Social Factors in Personality and Adjustment. Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches—symbolic interaction, role theory, developmental social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

435-4 Social Inequality. Discussion of theories and evidence pertaining to the socio-structural causes and consequences of inequality based on social class, prestige, power, gender, wealth, and income.

437-4 Sociology of Development. A survey of sociological theories of development including modernization, dependency, and world-system perspectives. Problem areas of development are examined: economic growth, state structures, multinational corporations, labor force, education, migration, population, and women's roles.

450-4 Social Thought. A survey of western social thought from the ancient world to the founding of the modern social sciences in the 19th century.

451-4 Sociology of Language and Signs. (Same as Speech Communication 446.) Introduction to sociological semiotics with reference to such figures as Eco, Foucault, Derrida, Baudrillard, Saussure, Habermas, the ethnomethodologists. Emphasis on the place of language and signs in sociological explanation.

454-4 Sociology of Science. Emphasis on the origins and growth of science in historical perspective, reciprocal relations between science and society in the 20th Century, science as a social system, differentiation within and relations between disciplines, and implications of the social organization of scientific research and funding.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area.

465-3 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and tech-

niques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors.

472-3 The American Correctional System. (See Administration of Justice 472.)

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: none; 6 hours social/behavioral science recommended.

474-4 Sociology of Education. Methods, principles, and data of sociology applied to the educational situation; relation of education to other institutions and groups.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society.

497-4 Senior Seminar. Contemporary issues in sociology and the analysis of these issues. Not for graduate credit. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor.

498-1 to 4 Independent Research. With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor.

501-4 Classical Sociological Theory. A systematic survey of sociological theory with the focus on 19th and early 20th-century sociological thought. An in-depth examination of a selected number of thinkers whose work laid the foundation for major schools of contemporary sociology. Students are expected to be familiar with the fundamentals of sociological analysis.

502-4 Contemporary Sociological Theory. A survey of major 20th-century theoretical orientations in sociology with emphasis on their differing modes of conceptualization and alternative research programs. Students are expected to be familiar with the classics of sociological thought.

506-4 Seminar on Contemporary Sociological Theory. Recent trends in sociological theory; current approaches to the construction and application of theoretical models and their relations to empirical research. Prerequisite: 501 or consent of instructor.

512-4 Sociological Research. An overview of sociological research methods including survey, quantitative, comparative-historical, and ethnographic techniques of research. Special attention will be given to research design and implementation. Students will do one or more limited research projects and will write reports on the projects.

513-4 Methods of Historical Sociology. Analysis of methodological similarities and

differences between social history and historically-oriented social sciences in the study of social change. Review of practical techniques in historical research.

519-4 Methodological Foundations of the Social Sciences. Seminar on selected problems of social science methodology; the nature of social phenomena; basic problems of epistemology, concept formation, and logic of scientific procedures. Prerequisite: consent of instructor.

521-4 Seminar in Social Psychology. In-depth examination of specific theoretical systems or substantive problems in social psychology. Students wishing specific information on the topic of the seminar should consult with the instructor for more detail. Prerequisite: 426 or consent of instructor.

526-8 (4,4) Quantitative Methods in Sociology. (a) Linear causal models as a tool in theory and research. Central tendency, variation, covariation, and correlation. Bivariate and multivariate regression models. Path analysis and related techniques. Bivariate and multivariate statistics for nominal and ordinal measures. (b) Application of linear models. Linear models of measurement error, reliability, and validity. Models of reciprocal causation feedback and control. The identification problem. Must be taken in a, b sequence. Prerequisite: graduate standing.

529-4 Sampling and Inference in Social Research. Probability. Sampling distributions. Sampling designs. Point and interval estimation. Analysis of variance. Hypothesis testing: parametric and nonparametric approaches. Power and efficiency of statistical tests. Prerequisite: consent of instructor.

530-2 to 12 (2 to 4 per topic) Topical Seminar in Sociology. Content varies with interests of instructor and students. Prerequisite: consent of instructor.

532-4 Urban Social Structure. Theories of urban social structure and change, with emphasis on the comparative analysis of ecological and normative processes of integration and disintegration in modern urban communities.

533-4 Seminar in Social Stratification. Comparative study of power, social class, and status; conceptions of social structure and measurement techniques; explanations of social and occupational mobility; institutions and differential life-changes.

534-4 Seminar in Social Change. Overview of prevailing theories, research, and issues in social change. These include social and economic change in capitalism; modernization development and underdevelopment in the world system; gender; race and ethnic relations; class relations and labor markets; social and revolutionary movements.

537-4 Seminar in the Sociology of Law. Following an introduction to the scope and content of the subject, emphasis will be given to theory and research on the nature of law, law as social control, law creation, and legal change.

539-4 Seminar in Complex Organizations. Overview of theories, research, and pre-

vailing issues of complex organizations. These will include the power structure of the business community, emergence and structure of the bureaucratic organization, bases of authority, systems of formal and informal relations, unanticipated consequences of organizational structure, labor relations, total institutions, and social movements as organizations.

542-4 Seminar on the Family. Overview of the theoretical approaches, substantive issues, and techniques of research and measurement in the study of American family life. Approaches include structural-functionalism, conflict theory, and the feminist critique. Among the substantive topics are family roles and relationships, kinship, relationships of the family to other institutions, and family change.

543-4 Seminar on Comparative Family Systems. Analysis of cross-cultural and historical variation in family structure. Methods and sources of information for research on family structure.

551-4 Sociology of Religion. Theoretical and empirical study of the origin, location, and function of religious ideas and institutions in society.

562-4 Seminar in the Sociology of Deviance and Social Control. Critical analysis of sociological theories and methods used in the study of social deviance and control. Examination of social deviance such as suicide, mental illness, sexual variance, drug use, and alcoholism.

564-4 Seminar in Medical Sociology. Theoretical perspectives and empirical findings in the sociology of health, illness, and medicine. Analysis of such topics as social epidemiology, health care delivery and utilization, the sick role, and the drug industry.

572-4 Seminar in Criminology. Students will learn research methods appropriate to the student of crime within various theoretical schools of criminology. Particular attention will be paid to quantitative and qualitative approaches to symbolic interactionism, functionalism, social structural, ecological, and control theories.

591-1 to 4 Individual Research—Supervised Research Projects. Open to graduate students with a major in sociology. Graded *S/U* only. Prerequisite: consent of instructor and departmental director of graduate studies.

596-1 to 8 Readings in Sociology. Supervised readings in selected subjects. Graded *S/U* only. Prerequisite: consent of instructor and departmental director of graduate studies.

599-1 to 6 Thesis. Prerequisite: consent of chair.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: consent of chair.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to

register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Special Education

400-3 Introduction to Special Education. Physical, mental, emotional, and social traits of all types of exceptional children and youth. Effects of handicaps in learning situations. Methods of differentiation and techniques for rehabilitation. Case studies, observations, and field trips may be required.

401-3 Problems and Characteristics of the Behavior Disordered Children and Youth. Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services for the emotionally disturbed or socially maladjusted. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior. Prerequisite: 400 or concurrent enrollment or consent of department chair.

402-3 Problems and Characteristics of the Mentally Retarded Child. Emphasizes a developmental approach to understanding and dealing with children who have mildly and moderately reduced mental abilities. Considers historical, theoretical, and practical factors pertinent to mental retardation. Prerequisite: 400 or concurrent enrollment or consent of department chair.

403-3 Problems and Characteristics of the Gifted Child. Designed to help teachers in the identification of and programming for gifted and talented children. Prerequisite: 400 or concurrent enrollment or consent of department chair.

404-3 Problems and Characteristics of the Learning Disabled Children and Youth. Behavioral, emotional, physical, and learning characteristics of children and youth with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 400 or concurrent enrollment or consent of department chair.

405-3 Education of the Preschool Handicapped Child. Emphasizes classroom procedures for enhancing development in children with developmental delay. Covers organization of the curriculum, goal setting, task analysis, lesson planning, and classroom organization. Practicum with preschool handicapped children is an integral part of this course. Prerequisite: 400, concurrent enrollment, or consent of chair.

406-3 Characteristics of Moderately and Severely Handicapped Learners. Presents historical, theoretical, and research developments in service delivery for severely handicapped individuals of all ages. Provides the basic developmental, instructional, and curricular background essential for prospective educators. Emphasizes a behavioral approach. Thirty hours of observation or equivalent applied experience is required.

408-3 Integrating Handicapped Children and Youth in Normalized Environments. For school personnel who serve directly and indirectly handicapped children and youth. The course focuses on providing the essential characteristic information and skills to appropriately educate the handicapped in a variety of settings.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the personality characteristics and educational needs of children who are diagnosed as mentally, emotionally, or physically handicapped. Prerequisite: 400, consent of instructor and department chair.

410-2 International Aspects of Services for the Handicapped. Focus on innovative ideas and practices in other countries in preschool programs, special education, rehabilitation, vocational training and employment, recreation, community living, organizational structures, and legislation.

411-3 Assessment in Special Education. Designed to develop competency in students in the administration, scoring, and interpretation of educational tests including the integration of findings from a number of tests. A laboratory fee is required to cover the cost of materials. No textbook is required. Prerequisite: 400; one of 401, or 402, or 404; or consent of department chair.

412-3 Assessment and Remedial Planning for the Preschool Handicapped Child. An introduction to the assessment of preschool handicapped children including the specifics of screening, tests used by the classroom teacher, and observational procedures. A charge for testing materials is required. No textbook is required. Prerequisite: 400 or consent of instructor.

414-3 Assessment and Planning for Youth in Special Education. Testings, evaluation, and program development for adolescent students with special learning problems. Purchase of testing materials costing approximately \$12 is required. Prerequisite: 400 and consent of department.

417-3 Methods and Materials for Teaching Behaviorally Disordered Children and Youth. Psychoeducational procedures used in teaching the behaviorally disordered child. Includes field trips, meetings with parents, and visits by resource persons from schools and agencies. Prerequisite: 400, 401.

418-3 Methods and Materials for Teaching Educable Mentally Handicapped Children and Youth. Psychoeducational strategies used in teaching the educable mentally handicapped children and youth. Prerequisite: 400, 402.

419-3 Methods and Materials for Teaching Learning Disabled Children and Youth. Psychoeducational strategies used in teaching children with learning disabilities. Prerequisite: 400 and 404.

421-3 Methods and Materials for Teaching Moderately and Severely Handicapped Children. Emphasizes a behavior approach (i.e., systematic instruction) in

teaching young students with severe handicaps (e.g., moderate MR, severe MR, profound MR, multiply handicapped, autistic). Systematic instruction is discussed in relation to applications across various curriculum domains. Each student must have access to working with moderately or severely handicapped students during the semester. All students are to develop and implement an instructional program during the course of the semester. Prerequisite: 400, 406.

423-2 General Procedures in Special Education. Deals with methods, materials, and instructional management practices common to the instruction of the handicapped. Prerequisite: 400; and one of 401, 402, 403, or 404; or consent of department chair.

425-2 Home-School Coordination in Special Education. Consideration of the techniques used in parent interviews, conferences, and referrals by school personnel with parents of handicapped children. Prerequisite: 400 or consent of department chair.

430-3 Secondary Programming for Mildly Handicapped Students. Deals with modifications of and additions to school programs to insure that they are appropriate to the needs of the mildly handicapped adolescent. Includes detailed coverage of joint work-study programs as preparation for vocational adequacy, and addition of remedial and compensatory program models. Prerequisite: 400 and one of 401, 402, 403, or 404.

431-2 Work-Study Programs for Severely Handicapped Adolescents to Age 21. Deals with program offerings in public school special education programs designed to prepare the severely handicapped adolescent for maximum vocational adequacy. Prerequisite: 400 and one of 401, 402, 404, or 406.

490-1 to 5 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Prerequisite: 400 and consent of department chair.

500-3 Special Education Research Problems. Research design and methodology in special education. Prerequisite: consent of instructor.

501-3 Methods and Materials for Seriously Behavior Disordered. Deals with methods, materials, and instructional management practices common to the instruction and management of seriously behavior disordered students in the schools and in residential settings.

503-3 Educational Program Delivery for Gifted and Talented Students. Planning implementation and evaluation of differential educational programs for gifted and talented students. Reviews historical through modern day approaches to the systematic delivery of educational services to exceptional populations. Evaluation methods for the expansion and refinement of gifted programming are planned. Prerequisite: 403.

505-3 The Pre-School Handicapped Child. Deals with the philosophy and practices involved in the development and maintenance of educational programs for pre-school

age handicapped children in the community.

511A-3 Advanced Assessment and Remedial Planning in Special Education. Administration and interpretation of typical instruments used to gain information to be used in remedial planning for children in special education programs. Designed to provide students with thorough knowledge of testing procedures, this course will include supervised practicum in testing and development of remedial programs. Prerequisite: 411.

511B-3 Advanced Remediation in Special Education. Designed to provide the graduate student with experience in designing and carrying through with a remedial program. Prerequisite: 511A.

512-3 Advanced Assessment and Remedial Planning for the Preschool Handicapped Child. Advanced diagnostics with preschool handicapped children. A clinic based practicum experience in the evaluation of preschool handicapped children. Prerequisite: 412, 405, or concurrent enrollment, and consent of instructor and chair.

513-3 Organization, Administration, and Supervision in Special Education. Emphasis upon the functions, underlying principles, and cautions to be observed in the organization and administration of special education. The selecting and training of teachers, problems of supervision, special equipment, transportation, cooperating agencies, and legal aspects of the problem. Prerequisite: 400 and consent.

514-3 Simulation of Administrative Tasks in Special Education. Development of skills required of special education administrators and supervisors through the use of simulation materials focusing on these skills. Prerequisite: 400 and consent.

515-2 Itinerant and Resource Teaching in Special Education. The role, responsibilities, problems of the itinerant and resource teacher in special education. Alternate systems and models for providing educational experiences for handicapped children. Review of the role and responsibilities of other ancillary school personnel. Prerequisite: consent of instructor.

516-3 Advanced Assessment for Educationally Handicapped Youth in Special Education. Administration and interpretation of typical instruments used to gain information to be used in program planning for adolescents in special education programs. Designed to provide potential secondary teachers with thorough knowledge of testing procedures, this course will include supervised practicum in testing and development of remedial programs. Prerequisite: 411.

517-2 The Atypical Child and Social Agencies. A survey of social agencies contributing to the welfare and care of exceptional children. Emphasis is given to services rendered and to method of contact and costs. Specialists invited to appear before the class. Prerequisite: 400 and consent.

518-1 to 6 Workshop in Special Education. Topical workshops centered on current practices and new developments in special ed-

ucation. Designed to promote better understanding of the psychological and educational problems of exceptional children. Open to graduate students majoring in education and related fields. Prerequisite: 400 and consent of instructor and department chair.

519-3 Career Development Opportunities for Educationally Handicapped Youth. This course is designed to prepare special educators to understand the career needs of the educationally handicapped youth and the procedures for developing appropriate career services for such students. Prerequisite: 430.

523-3 Technology Usage in Special Education. The application of evolving technologies will be related to circumventing, accommodating, and compensating for handicapping conditions. Particular attention will be devoted to microcomputer applications with an emphasis on classroom usage. Prerequisite: C&I 483 or consent of instructor.

550-3 Behavior Management of Exceptional Children and Youth. Describes assessment, implementation, and monitoring procedures involved with the use of behavior change techniques in special education programming. Emphasis will be placed on the actual implementation of behavior change techniques with handicapped school aged students in public school settings. Prerequisite: concurrent enrollment in 594 and REHB 406 or consent of instructor.

560-2 Inservice Delivery. Covers theoretical and practical aspects of inservice delivery/staff development. Special focus on organizing inservice programs, delivery techniques, consultative skills development, select inservice models, needs assessment, and evaluative techniques. Prerequisite: C&I 483 or consent of instructor.

576-3 Correctional Education Programming. Covers overview of organization structures in correctional settings; structure of educational programs, types of educational programs, characteristics of juvenile and adult students, educational assessment and placement procedures. Prerequisite: consent of instructor.

578-3 Legal Framework for Special Education Services. Covers PL 94-142 (Education for all Handicapped Children Act) and Section 504: The Rehabilitation Act of 1973. Emphasis on both pieces of legislation with respect to provision of educational services for handicapped children and youth/young adults. Prerequisite: 400, or concurrent enrollment, or consent of instructor.

580-3 Master's Seminar: Issues and Trends in Special Education. Analysis of research, trends, and programs in the education of handicapped children. Open to graduate students in special education only. Prerequisite: 400, consent of instructor and department chair.

582-3 Post-Master's Seminar: Theories and Models in Special Education. Critical discussion of eight major intervention models used historically and currently with handicapped children in educational settings. Prerequisite: consent of instructor.

583-3 Post-Master's Seminar: Program Coordination in Special Education. Analysis of organizational principles and practices required for the creation and maintenance of programs to meet the needs of persons who are handicapped and require specialized educational programs within the school setting. Prerequisite: consent of instructor.

584-3 Doctoral Seminar: Research in Special Education. An analysis of purposes, approaches, design, methodology, and applications of experimental studies of handicapping conditions, as they relate to special education. Prerequisite: 582, 583.

585-3 Doctoral Seminar: Evaluation in Special Education. An analysis of the purposes, approaches, design, methodology, and applications of evaluative studies in special education. Prerequisite: 582, 583.

586-1 to 4 (1,1,1,1) Proseminar in Special Education. A topical seminar providing for the systematic discussion of current research in the field of special education. Specific content is determined by participating faculty and students, relative to current faculty research and dissertations in progress within the department. Doctoral students will register for a total of four credit hours, one per semester, after which they will audit the course during the pursuit of their dissertation. Master's students admitted with consent of adviser and chair.

590-1 to 6 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to graduate students. Graded S/U only. Prerequisite: 400, consent of instructor.

591-1 to 6 Independent Investigation. A field study for graduate students. Conducted in a school system where full cooperation is extended. The study will involve selection of a problem, surveying pertinent literature, development of experimental design and procedures, recording results, and appropriate interpretations and summaries. Prerequisite: consent of instructor.

594-1 to 6 Practicum in Special Education. Supervised experience in school or institutional programs for atypical children. Special research project. Open to graduate students only. Prerequisite: consent of instructor and department chair.

595-1 to 12 (1 to 6) Internship. The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Internship assignments include: (a) research and applied studies; (b) evaluation; (c) administration; (d) university teaching; (e) program planning and management; (f) supervision; and (g) specialized delivery systems. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors.

599-1 to 6 Thesis. Independent hours to be taken under the supervision of the student's

master's degree chair for the purpose of conducting and writing the master's thesis. Prerequisite: consent of instructor.

600-1 to 32 (1 to 12 per semester) Dissertation. Prerequisite: consent of chair.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Speech Communication

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works, and the mass media.

421-3 to 9 (3,3,3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading, and discussion course. Students may repeat enrollment to a total of nine hours. Prerequisite: for undergraduates, 411 or consent of instructor.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill to basic reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

431-3 Speech in Secondary Schools. Philosophy of speech education, and effective teaching of speech through curricular and extra-curricular work. Prerequisite: twelve hours of speech.

432-3 Secondary School Forensic Program. Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Students enrolled as majors in speech communication with a specialization in communication education must complete this course before enrolling for student teaching. Not for graduate credit. Prerequisite: 325, GE-C 200.

433-3 Children's Literature in Performance. Study of children's fiction and poetry through analysis, creative drama, and performance, including solo and group work.

435-3 to 6 (3,3) Topics in Creative Drama. An exploration of advanced theories and techniques for conducting sessions in informal drama. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 341 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychological theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Studies in Language Acquisition. Research in and theories of the development of verbal and nonverbal language with attention to the maturational process. Includes investigation of social, phonological, syntactical, and semantic correlates of communication development. Appropriate for advanced students interested in working or conducting research involving children.

446-4 Sociology of Language and Signs. (See Sociology 451.)

451-3 Political Communication. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication

is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communication II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine value and priorities of human nature and cultural nature.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 370, GE-C 200 or consent of instructor.

474-3 Staging Literature. Theory and practice of staging literature in the lyric mode with emphasis on adapting and directing. Prerequisite: 370 or consent of instructor.

475-3 Narrative Theatre. Theory and practice of staging narrative literature with emphasis on adapting and directing. Prerequisite: 471, or 474, or consent of instructor.

476-3 Writing as Performance. An examination of the practical and theoretical links between composition and performance. Lectures, readings, and assignments focus on performance as a means and an end to creative writing. Prerequisite: none.

480-3 Dynamics of Organizational Communication. Introduction to interrelationships of communicative behaviors and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.

481-3 Public Relations Cases and Campaigns. Advanced course in public relations case analysis and campaign planning. Students critique public relations campaigns created by various profit, nonprofit, and agency organizations. Students also design public relations campaigns from problem identification through evaluation stages. Prerequisite: 381 and 382 with a grade of C or better.

483-3 Studies in Organizational Communication. Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production, and organizational climates. Individual research into selected aspects of organizational climates. Prerequisite: 480 or consent of instructor.

490-1 to 6 Communication Practicum. A supervised experience using communication skills. Emphasis on the development of performance skills in the following areas: (a)

Communication studies. (b) Performance activity. (c) Interpersonal communication. (d) Debate and forensic activity. (e) Political communication. (f) Organizational communication. (g) Instructional communication. May be repeated for credit. Undergraduates limited to a total of six hours and graduate students to three to be counted toward degree requirements.

491-1 to 3 Independent Study in Communication. Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor, and departmental adviser.

492-2 to 8 Workshop in Oral Interpretation. Summer offering concentrating in specialized areas of oral interpretation.

493-3 to 9 (3,3,3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

494-1 to 6 Internship in Public Relations. A supervised experience using public relations skills in a professional or career setting. Maximum of six hours to be counted toward degree requirements. Not for graduate credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

501-3 Introduction to Speech Communication Research. Survey of research methods utilized in the discipline of speech communication. Discussion of these methods as they apply to the various subject matter typologies. Introduction to basic conventions of research investigation and reporting.

502-3 Seminar: Quantitative Communication Research. Review and analysis of types of quantitative research and methods of data collection most relevant to the study of human communication. Prerequisite: 501 and EPSY 506 or its equivalent.

503-3 Communicology as a Human Science. Introduction to the human science approach (phenomenology) to theory construction in human communication. Examination of the modality conditions for evidence (actuality, possibility, necessity, sufficiency) and the corresponding logics (assertic, problematic, apodeictic, thematic) for qualitative research. Focus on the Abduction models of human communication and practice used by theorists such as Gregory Bateson, Paul Watzlawick, Roman Jakobson, Charles S. Pierce, Maurice Merleau-Ponty, and Michel Foucault.

504-3 Seminar: Empirical Phenomenological Communication Research. Review and analysis of the types of empirical phenomenological research and methods of capta/data collection relevant to the study of human communication. Prerequisite: 501 and 503.

505-3 Seminar: Semiotic Phenomenology and Critical-Cultural Research. Re-

view, analysis, and application of eidetic and hermeneutic models for conducting interpretive research in the tradition of semiology and phenomenology. Focus on those qualitative approaches which use a critical-cultural context of investigation in the human sciences, especially communicology. Prerequisite: 503 and 504 or consent of instructor.

510-3 to 6 (3,3) Seminar: Rhetoric and Communication. An analysis of selected theories of communication, public address, and rhetoric. Emphasis on major contributors of historical or contemporary importance. Students may repeat enrollment to a total of six hours.

526-3 Seminar: Studies in Persuasion. The study of persuasion in social-political contexts. Exploration of contemporary research and selected theories in persuasion. Examination of philosophical-ethical questions related to persuasion. Readings, research, and discussions.

531-3 Seminar: Speech Education. Advanced study of selected problems in speech communication instruction. Analysis of research problems and methodologies in speech pedagogy research. Topics may vary from year to year. Prerequisite: consent of instructor.

539-3 Speech Communication at University Level. Analysis and practice of instructional methods. Focus on the development of instructional skills with specific applications to teaching the basic college speech communication course.

540-3 Seminar: Language, Culture, and Semiology. Examination of communication problems and research focusing on the relation among cultural values, communication behaviors in the speech community, and social exchange. Emphasis on the semantics and pragmatics of intercultural communication and social semiotic systems. Prerequisite: 440 or 441 or consent of instructor.

545-3 Seminar: Semiology and Semiotic Communication. Advanced study of sign, signal, and symbol systems in the phenomenology of communication. Systematic analysis of the metatheory relationship between expression and perception as manifest in verbal and nonverbal communication systems. Emphasis on semiology as a communication theory in the human sciences. Some consideration of related theories such as structuralism, interspecies communication, human/machine communication, and general systems theory. Prerequisite: 440 or 441 or consent of instructor.

546-3 Conversation Analysis. (Same as Linguistics 546.) Study of the pragmatics of everyday conversation: sequential organization, topical coherence, speech act rules and functions, contextual frames, and background understandings. Emphasis on observational research methods and analysis of original data. Prerequisite: consent of instructor.

551-3 Phenomenology Seminar I: French Communicology. A critical examination of dominant problematics, thematics, and rhetorics in communication theory and

praxis developed as a human science (*science humaine de communicologie*) by such contemporary French theorists as Barthes, Bourdieu, Foucault, Merleau-Ponty, Perelman, and Ricoeur. Prerequisite: 401 and 461 or consent of instructor.

552-3 Phenomenology Seminar II: German Communicology. A critical examination of dominant problematics, thematics, and rhetorics in communication theory and praxis developed as a human science (*Kommunikationsgemeinschaft*) by such contemporary German theorists as Apel, Jaspers, Habermas, Heidegger, Luckmann, and Luhmann. Prerequisite: 401 and 461 or consent of instructor.

561-3 to 6 (3,3) Studies in Small Group Communication. Studies of group action, interaction, and leadership designed to apply small group theory and communication theory. Emphasis on the nature of group communication as exemplified in the laboratory model or the discussion/conference model. Students may repeat enrollment to a total of six hours.

562-3 Philosophy of Human Communication. (Same as Philosophy 562.) Advanced study of the philosophical theories and models utilized in the human sciences to analyze, describe, and interpret communication as a paradigm of expression and perception. Emphasis on the nature of persons, consciousness, and social exchange as discussed by such contemporary schools of thought as existential phenomenology, semiology, behaviorism, structuralism, critical theory, hermeneutics, and conceptual analysis. Prerequisite: 461 or 462, or PHIL 482 or 425 (same as SPCH 465), or consent of instructor.

563-3 Studies in Interpersonal Communication. An investigation of recent theories and empirical research concerning interpersonal communication. Emphasis will be placed on analyses of relational development, maintenance, and change in the contexts of working relations, friendships, and families. Both analytic and quantitative perspectives on interactional processes will be considered.

570-3 Performance Methodologies. The examination of performance methodologies for exploring human communication. Particular attention is given to generating and reporting performance knowledge. Prerequisite: nine hours of 400 level performance studies courses or consent of instructor.

571-3 Theory and Criticism in Interpretation: Pre-Twentieth Century. A study of the philosophical and critical trends in oral interpretation theory with emphasis on their historical development. Prerequisite: nine hours of interpretation or consent of instructor.

572-3 Theory and Criticism in Interpretation: Twentieth Century. A study of the philosophical and critical trends in oral interpretation theory in the twentieth century. Prerequisite: nine hours of interpretation or consent of instructor.

573-3 Performance Criticism. An examination of the theoretical and practical issues surrounding the evaluation of artistic performances for interpretation, rhetoric, theatre,

journalism, film, and television students interested in developing their critical skills. Prerequisite: consent of instructor.

574-3 to 6 (3,3) Studies in Interpretation. An exploration of selected current topics in the field of oral interpretation. May be repeated for a total of six hours. Prerequisite: twelve hours of interpretation or consent of instructor.

580-3 to 9 Issues in Organizational Communication and Public Relations. Advanced study and applications related to specific issues in (a) organizational communication, (b) public relations, and (c) political communication. May be repeated with change of topic area. Topics announced prior to each offering.

593-1 to 3 Research Problems in Communication. Independent research study with a theoretical focus under the tutorial supervision of a member of the graduate faculty. Prerequisite: consent of instructor and departmental adviser.

595-1 to 3 Research Report. One to three hours required of all non-thesis students writing a research paper. Graded *S/U* or *DEF* only.

598-0 Proseminar in Human Communication. An open forum offered each semester for the systematic discussion of contemporary research in the field of communication arts and studies. Specific content is determined by participating faculty and students. Topics will usually be related to current faculty research or dissertations in progress in the department. Graded *S/U* only.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Statistics

(See Mathematics.)

Telecommunications

(See Radio-Television.)

Theater

400-1 to 6 (1 to 2 per semester) Production. Practicum for support of major depart-

ment productions in all areas. Roles in department productions may fulfill requirement.

402-6 (3,3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; an examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 217 and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis, and patterning of auditory and visual elements of production. Direction of a full one-act play. Prerequisite: consent of instructor.

403-3 Advanced Voice and Movement. Advanced studies in voice and movement with special attention to period styles, commedia dell'arte, and period dance for the stage. Prerequisite: 303.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion, and public relations.

407-3 Scene Design. Technical and artistic aspects of scene design. Theory and practice. Supplies at least \$25 for the semester. Prerequisite: 218a,b; 309; 311a; 354a,b; ART 110; or graduate standing.

408-3 Model Making. The craft of scenic model making for the stage and other dramatic media. Prerequisite: 407 or consent of instructor.

409-3 Scene Painting. Studio in lining, paneling, tomp l'oeil ornament, and drapery. Prerequisite: 218a, 309, ART 110, or graduate standing.

410-3 Children's Theater. Study of methods and their practical application of introducing children to theatre and theatrical productions as an art form. Includes the writing of a short play for children. Recommended for majors in education programs.

411A-3 Playwriting—The One-Act Play. Principles of dramatic construction and practice in the writing of two one-act plays. Problems of adaptation are treated. Individual plays have the opportunity to be produced in the theater's program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for undergraduate theater and speech communication majors; or consent of instructor.

411B-3 Playwriting—The Full-Length Play. Principles of dramatic construction and practice in the writing of a full-length play, encompassing such varied types as the children's play, the musical, the outdoor historical drama, etc. In special cases, students may elect to write three short plays. Prerequisite: 411A or consent of instructor for non-majors; 311a for undergraduate theater majors.

414-3 Costume Design. History of western costume from Greek to Renaissance and its ad-

aptation to stage use. Practical application of design and color. Supplies at least \$25. Prerequisite: 218c; 311a; 354a,b; or graduate standing.

417-3 Advanced Acting. Utilization of the actor's process in the performance of European realism and various theories and style of the 20th century. Prerequisite: 317b.

418-3 Advanced Stage Lighting. Investigation of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. Four hours lecture and laboratory. Prerequisite: 218b, graduate standing, or consent of instructor.

419-3 Advanced Stagecraft. Advanced study of principles and procedures of scenic construction and stage rigging. Includes scene shop organization, materials, and specialized stage equipment; preparation for professional technical direction. Lecture and laboratory to be arranged. Prerequisite: 218a,b; 309; 409; or graduate standing.

454-3 American Theater. The development of American theater from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.

489-3 to 6 Theater-Television Workshop. Advanced work in the producing, acting, writing of original television drama. Prerequisite: C grade in R-T 300M, 300P and consent of instructor for radio-television majors; consent of instructor for theater and other majors.

500-2 Introduction to Research Methods. An introduction to the principles and methods of the various types of research in theater. The student may elect to focus on the research demands of a selected area of interest within the degree program pursued. One objective is the formulation of a research problem and a prospectus. Prerequisite: graduate standing.

501-3 Contemporary Developments. A survey of the significant developments in theater and related arts from the beginning of the 19th century to the present through the study of documentary material, critical works, and selected plays. Individual reports, guest lecturers, and lectures provide focus on selected areas. Required reading encompasses a broad spectrum of subjects. Prerequisite: graduate standing.

502-3 Advanced Directing. Emphasis on practical directing problems and concerns of individual students through research, rehearsal, and performance. Includes survey of directing theories and practices with laboratory application of directing techniques. Prerequisite: consent of instructor.

503-4 (2,2) Graduate Theater Speech Studies. (a) Work in American and foreign dialects. Includes representative readings from plays. Prerequisite: 403b. (b) Synthesis of vocal techniques through work on individual problems. Prerequisite: 503a.

504-3 The Comic Theater. A study of comedic drama, theory, and criticism as applied to types of comedy with a focus on interpreta-

tion for the theater practitioner. Individual reports are assigned.

505-3 The Tragic Theater. An examination of tragic drama and criticism as related to the societies which produced such drama. Individual reports are assigned.

507-3 Advanced Scene Design. Advanced consideration of principles of scene design. Scenography as a dynamic force in theater and related media worldwide. Supplies at least \$25 per semester. Prerequisite: 407 or consent of instructor.

510-2 to 8 Production Design Seminar. Exploratory workshop experience in innovative contemporary rendering techniques and methods for translation of metaphorical into theatrical visual values, with emphasis on design sophistication. To include, among other topics, theatrical rendering presentation, sketching, and color and texture experimentation. Comprehensive development of portfolio projects. To be taken by graduate production design students each semester in residence.

511-3 to 6 Playwriting Workshop. A practical laboratory course in which playwriting students will have one or more original plays presented in staged readings or modified productions. Plays will be directed and, in part, acted by graduate acting/directing students also enrolled in the course. The workshop gathers a performance group for the presentation of the new plays. Student playwrights are expected to constantly improve their work before and after presentation, to attend rehearsals, to work closely with directors and actors. Plays will be evaluated in critique sessions. Restricted to graduate playwriting and acting/directing students in the theater program. Prerequisite: graduate standing; theater major; 411a and b or consent of instructor.

513-4 (2,2) Stage Movement for Graduate Actors. (a) Practical work in stylized movement. (b) Continued work on the actor's physical instrument. Must be taken in a,b sequence. Prerequisite: 413b.

514-3 Advanced Costume Design. Advanced consideration of principles of costume design. Theory and history of costumes from Renaissance through early 20th century. Practical applications of methods and procedures in designing costumes. Supplies at least \$25 per semester. Prerequisite: 414 or consent of instructor.

517-6 (3,3) Graduate Acting Studio. (a) Advanced work on scenes from the classics. Prerequisite: 417b and consent of instructor. (b) Advanced work on scenes from contemporary drama and musical theater. Prerequisite: audition and consent of instructor.

522-1 to 12 SIU Summer Theater. Practical experience in summer stock play production. Performance or technical work in SIU Summer Theater only. Maximum of six hours per summer. Prerequisite: audition and consent of instructor.

526-3 to 12 (3 per topic) Seminar in Theater Arts. Special topics of interest to advanced students. Subject is determined by department and instructor. Areas: (a) Performance/production. (b) Theory, criticism, and

playwriting. Seminar in same area may be taken twice. Prerequisite: consent of instructor.

530-1 to 12 Independent Study. Independent research on selected problems. A maximum of three credit hours may be taken for a single project. Prerequisite: consent of instructor.

550-2 to 6 (2 per topic) Topical Seminar. In-depth studies of topics of special interest to advanced students concerning individual or groups of playwrights, directors, designers, and their techniques and theories. Topic is determined in advance. Prerequisite: consent of instructor.

560-1 to 21 Professional Work Experience. Credit may be granted for professional work experience prior to acceptance into the program. Prerequisite: approval by departmental graduate committee required. Graded S/U only.

561-1 to 12 Theater Internship. After completion of the M.F.A. core curriculum and basic courses in student's specialization, credit may be granted for internship at professional theatres, training programs, or studios. Prerequisite: prior approval of departmental graduate committee required. Graded S/U only.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a master's degree.

600-1 to 36 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Vocational Education Studies

402-3 Introduction to Office Information Systems. An introduction to the integrated office concept investigating the functions of data processing, records management, electronic mail, word processing, and reprographics.

404-3 Analysis of Office Systems. An investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of words, office personnel and their responsibilities, and the role of office functions in the total business society. Prerequisite: 402.

405-3 Office Management. Principles of management applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of office, office services, pro-

cedures, standards, and controls; records management.

407-3 Records Administration. An introduction to methods and systems of controlling, storing, retrieving, and disposing of records. Application of principles of records administration to medical, legal, educational, industrial, and governmental records. Techniques needed to design and implement an operationally efficient records management program.

408-3 Information Administration Technologies. An investigation of the various technologies and their use to efficiently control, store, retrieve, and communicate information. Methods and techniques needed to design and implement various technological information systems will be explored as they apply to the development of information management programs. Prerequisite: 407.

409-3 Applications of Integrated Software/Education. (Same as Agricultural Education and Mechanization 418.) Design of agriculture or education applications of integrated software. Spreadsheet, database, wordprocessing, and graphic and communications software will be applied to the solution of business problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

410-2 Principles and Problems of Business Education. A study of the fundamentals of business education; its relation to business, to general education, and to vocational and career education; its history, current status, and trends; special emphasis on objectives and curriculum problems.

415-7 (1,1,1,1,1,1,1) Instructional Methods for Business Education. Specific methods, techniques, and materials applied to business education areas of: (a) accounting; (b) basic business; (c) computer systems; (d) keyboarding; (e) information processing; (f) marketing; (g) shorthand. Prerequisite: 310, 462, or EDUC 315.

428-3 Home Economics for Elementary Teachers. Identification and development of meaningful home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. Possible expense for materials to use in classroom demonstrations \$5 to \$8.

439-3 Historic Clothing: Western Cultures. Development of clothing in western civilization to the present time. Consideration of social, economic, and esthetic factors, and technical innovations influencing clothing. Prerequisite: 347 or equivalent.

440-3 Experimental Costume Apparel

Designing. Development of apparel to meet esthetic, structural, and functional needs; problemsolving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials, and environment. Prerequisite: 342 and 344.

442-3 Clothing Economics. Factors of production, distribution, and consumption influencing clothing industry; management of these factors in clothing related businesses; place of clothing industry in national and international markets. Field trip. Prerequisite: GE-B 211 or ECON 214.

444-3 Mass Market Apparel Designing. Design of a line to specifications; drafting; toiles; mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 342 and 344.

445-3 Textile Product Testing. Exposure to and experience with methods used by retailers and manufacturers of textile items to measure performance and maintain quality. Standards, sampling, and replication requirements and interpretation of results. Prerequisite: 345 or equivalent.

446-3 Professional Practices in Fashion Design. Business principles of apparel design including systems, forms, and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Not for graduate credit. Prerequisite: 342 and 344.

448-3 Custom Tailoring. Individualizing, fitting, and contouring of male and female garment for customer from commercial pattern or from original pattern design. Organization of work and time. Not for graduate credit. Prerequisite: 348 or equivalent.

449-3 Historic Clothing: Nonwestern Cultures. Traditional dress in nonwestern cultures. Aesthetics, symbolism, and uses of costume in the culture; effect of clothing on economy. Cultures studied may vary with each offering. Prerequisite: junior standing.

450-3 Introduction to Health Occupations Education. An orientation course for health occupations education. Provides information on the current and historical directions in health occupations education; resources for teaching and training of prospective students; program articulation and career mobility; the role of professional and student health organizations; state and federal legislation/regulations in health occupations education; licensure and certification requirements and their impact on education; and health occupations career clustering within Illinois' vocational system. Prerequisite: 460 and 462.

460-3 Occupational Analysis and Curriculum Development. The first of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Includes analyzing occupations and jobs, specifying objectives, and developing curriculum. (a) Agriculture education. (b) Business education. (c) Education training and development. (d) Health occupations education. (e) Home economics education. (f) Industrial education.

462-3 Teaching Methods and Materials. The second of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Concerned with instructional methods and materials unique to vocational and occupation education. (a) Agriculture education. (b) Business education. (c) Education training and development. (d) Health occupations education. (e) Home economics education. (f) Industrial education.

463-3 Assessing Vocational Student Progress. Development and use of evaluation instruments to assess occupational student growth. Use of systems approach to course design, criterion-referenced and norm-referenced objectives, and four taxonomies of educational objectives in development of written tests, laboratory and work station performance tests, and attitude measures. Data are used for evaluation of student progress and program modification. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in teaching special needs learners. Affective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Principles and Philosophies of Vocational Education. Historical and philosophical foundations of vocational education. The nature and role of vocational education in preparing people for the world of work.

468-3 Education/Labor Force Linkages. Examines education/labor linkages. Particular attention given to the following areas: overcoming barriers to the linkage process, developing effective lines of communication, resource sharing, conducting joint problem solving with other agencies and individuals within the community, and jointly developing and providing programs and services.

469-3 Training Systems Management. Principles and techniques for managing training organizations. Design, promotion, conduct, and evaluation of training programs in accordance with needs, restraints, and resources in corporate and government settings. Prerequisite: 460 and 462.

472-3 Organizing Cooperative Vocational Education. Introduction to cooperative vocational education including history, rationale, legislative basis, and goals and objectives. Investigation into the competencies required for developing programs, public relations, and evaluation of cooperative vocational education. Introduction of student selection and management of cooperative vocational education. Fulfills three semester hours of the six required for State of Illinois certification.

473-3 Coordinating Cooperative Vocational Education. Overview of cooperative vocational education. Investigation into the competencies required for the establishment, implementation, and coordination of cooperative vocational education to include selection and maintenance of training stations, student placement, related instruction in cooperative vocational education, and the management of

cooperative vocational education programs. Fulfills the remaining three semester hours of the six required for State of Illinois certification. Prerequisite: 472.

474-3 Individualized Vocational Instruction. Study of the theory, characteristics, appropriateness, and evaluation techniques of individualized programs. Will include a review of the current state of individualized instruction in education for work programs.

478-3 Contemporary Principles in Management of Technical Education Programs. Study of contemporary approaches to the teaching of technical education including: developing an understanding of the philosophical base; identifying a curriculum development procedure in teaching strategies; and locating resources and educational aids for the Illinois Plan for Industrial Education. Prerequisite: junior standing.

484-3 Adult Vocational and Technical Education. A study of adult vocational and technical education as offered in a variety of educational settings. Major topics include organization, funding, teaching, student characteristics, and evaluation. Prerequisite: consent of adviser.

486-3 (1,1,1) Post-Secondary Vocational-Technical Teaching. Contemporary approaches to teaching vocational-technical education in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations; (b) situations and issues which arise in professional education sessions; (c) interpersonal relations in teaching and other educational assignments. Not for graduate credit.

488-3 Initiating Vocational Student Placement and Follow-up. Planning, implementing, operating, and evaluating school-based placement systems for vocational education.

490-1 to 4 Readings. Supervised reading for qualified students. May include independent study. (a) Agriculture education. (b) Business education. (c) Clothing and textiles. (d) Education training and development. (e) Health occupations education. (f) Home economics education. (g) Industrial education. (h) Vocational education. Prerequisite: consent of instructor and program coordinator.

491-1 to 5 Advanced Occupational Skills. Modern occupational practice in selected fields. For experienced professionals seeking advanced techniques in specialized areas of vocational education. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education, (f) clothing and textiles. Prerequisite: intermediate level study in the specialty.

494-1 to 4 Workshop. Student of current issues of importance to vocational, occupational, and career education teachers, supervisors, and administrators. Emphasis of each workshop will be identified in each workshop announcement. (a) Agriculture education. (b) Business education. (c) Clothing and textiles. (d) Education training and development. (e) Health occupations education. (f) Home eco-

nomics education. (g) Industrial education. (h) Vocational education.

495-2 to 12 Teaching Internship. Internship teaching in vocational programs in approved centers. The intern teacher will follow the program of the supervising teacher in both regular and extra class activities. May include independent study. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: ten hours of 395 and three hours of teaching methods.

496-2 to 12 Professional Internship. Research or curriculum development or program management at approved education or training sites. The intern will follow the program of the supervising professional in regular and related activities. Not for graduate credit. Prerequisite: 18 months full-time equivalent of documented or 9 months full-time equivalent of supervised work experience or a combination.

497-1 to 6 Practicum. Applications of vocational, occupational, and career education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialists. (a) Agriculture education. (b) Business education. (c) Clothing and textiles. (d) Education training and development. (e) Health occupations education. (f) Home economics education. (g) Industrial education. (h) Vocational education. Prerequisite: 20 hours in specialty.

498-1 to 5 Special Problems. Assistance and guidance in the investigation and solution of vocational, occupational, or career education problems. May include independent study. (a) Agriculture education. (b) Business education. (c) Clothing and textiles. (d) Education training and development. (e) Health occupations education. (f) Home economics education. (g) Industrial education. (h) Vocational education. Prerequisite: consent of instructor and program coordinator.

510-3 Improvement of Instruction in Business Education. Designed for the experienced teacher who is interested in the study of curriculum and teaching problems in business education. Deals with teaching procedures, instructional materials, tests and evaluation, and organizations of teaching units and projects. Prerequisite: 310 or 410 or consent of instruction; teaching experience in business.

518-3 Home Economics Programs in the Schools. Curriculum development in vocational home economics is the focus. Units in family life education, consumer-homemaking, and occupational programs are developed by students for use in their professional responsibilities. Offered alternate years.

520-3 Trends and Issues in Home Economics Education. Analysis and appraisal of current trends, problems, and issues in the field. Attention is given to implications for teachers.

521-3 Advanced Methods of Teaching Home Economics. Recent trends in methodology based on research and experimentation. Attention given to methods which promote

cognitive, affective, and psychomotor learnings. Preparation of materials for special interests of students. Offered alternate years.

538-2 College Teaching of Clothing and Textiles. Central ideas, objectives, and current practices. For preparation of college teachers.

547-3 Foundations of Fashion. Anthropological approaches to fashion and socioeconomic and psychological forces as determinants of fashion in modern times. Prerequisite: 347 or consent of instructor.

561-3 Research Methods. Basic research methods and techniques in the design, investigation, and reporting of research studies relating to education for work.

562-3 Legislation and Organization. Historical and contemporary thought and practice regarding federal and state legislation related to education for work. Legislators are used as resource persons. Required for supervisors.

564-3 Program Evaluation for Work Education. Evaluation systems and activities for evaluating national, state, and local work education programs. Systems include programmatic accreditation and state agency evaluations. Activities include personnel, facilities, access and equity, community resources, and community needs evaluations.

566-3 Administration and Supervision. Nature, function, and techniques of administration and supervision of education for work programs at all levels.

568-3 Facilities Planning. Principles and practices of planning classrooms and laboratories for various education for work programs. How to work with administrators, staff, and paid professionals to assure judicious location and design of facilities.

572-3 Trends and Issues in Cooperative Vocational Education. Theoretical basis of, and trends and issues in cooperative vocational education (CVE). Historical research into CVE, current directions, and related literature. Investigations into development, implementation, and evaluation of CVE programs. Concentration on administration and supervision of major components. Special emphasis on developing a CVE program. Prerequisite: 472.

574-3 Occupational Information. The role of instructional and supervisory personnel in the total occupational information system. Kindergarten to adult.

576-6 (3,3) Policy Implementation and Supervision. Planning, implementing, and controlling local education agency components of state and federal occupational programs. (a) Objective program planning, leadership, communications. (b) Management information systems, financial decisions, staffing patterns.

578-3 Programs in Diverse Settings. Similarities and dissimilarities of education for work programs in public/private, civilian/military, union/management, and other settings. Expectation of instructional and supervisory personnel. Professional contributions of post-secondary teachers.

580-3 Characteristics of Clientele. Familiarization with the characteristics and programming needs of clientele served by various education for work programs.

584-3 Curriculum Foundations for Work Education. Acquaints students with different factors that influence, direct, and shape curriculum as it pertains to the work-oriented aspects of school and society. Topics include law and the curriculum, philosophies and organizational models, differing approaches by grade level and setting, and the development of work-related curriculum.

586-3 Adult Vocational Programs. Philosophy of adult education; current organizational patterns of adult programs; unit planning, methods, techniques, and resources.

588-3 Performance-Based Professional Development. Key concepts, terminology, advantages, limitations, and techniques for using performance-based teacher education. Major performance-based teacher education models. Procedures for implementing pre-service and in-service programs. Published learning packages are used to develop skill in teaching in and managing performance-based teacher education programs. Prerequisite: admission to the Ph.D. program.

590-1 to 9 Readings. Supervised readings in selected advanced subjects. Prerequisite: consent of instructor.

591-1 to 9 New Developments. Recent developments and trends in various aspects of education for work. Instruction provided by recognized authorities.

592-3 Current Issues and Research. Examination of broad topics, issues, and research not covered in other regularly scheduled courses. Emphasis will be on recent and present issues which are in the process of evolving. Content will be selected from three primary professional fields: (a) vocational/technical education, (b) employment and training, and (c) career education. Required of all Ph.D. students.

593-1 to 6 Individual Research. The selection and investigation of a research topic culminating in a paper satisfying the research requirement for a Master of Science in Education degree. Prerequisite: consent of instructor.

594-3 Advanced Research Methods. Development of research competencies and preparation of proposal for thesis or dissertation research. Familiarity with research in various foundation areas of education for work.

595-1 to 16 Professional Internship. Supervised professional experience in appropriate educational settings. May be done on or off-campus.

598-1 to 6 Special Investigations. Selection and investigation of a problem: use of relevant sources and techniques; collection and analysis, evaluation, and interpretation of data, and the writing of a report of the investigation for students whose particular needs are not met by existing classes. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 36 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Women's Studies

427-3 Women in the Visual Arts. (See Art 457.)

442-4 Sociology of Gender. (See Sociology 423.)

445-3 Women and the American Political Process. (Same as Political Science 429.) Focuses on the role of women in the American political system. Examines the political behavior of women as voters and as political elites. Also analyzes policies regarding women's issues, such as comparable worth, affirmative action, and reproductive rights.

447-3 Ascriptive Politics: Gender, Race, Ethnicity. (See Political Science 451.)

454-3 to 6 Topics in Women's Literature. (See English 496.)

456-3 Philosophical Perspectives on Women. (See Philosophy 446.)

463-2 Greek Literature in Translation. (See Classics 405.)

476-3 Women and the Criminal Justice System. (See Administration of Justice 460.)

488-3 Women in the Home and Labor Market. (See Consumer Economics and Family Management 480.)

490-1 to 6 Readings. Supervised readings in selected content areas of women's studies. Prerequisite: consent of instructor and coordinator of women's studies.

491-1 to 6 Special Topics. Concentration on a topic of interest not offered through the regular course listings. Prerequisite: consent of the faculty member instructing the course and the women's studies coordinator.

492-3 to 6 Seminar in Women's Studies. A synthesizing experience for seniors minoring in women's studies and graduate students from various departments. Activity may include, but is not limited to, a research project. Prerequisite: completion of a women's studies general course and either senior or graduate standing; also consent of women's studies coordinator.

493-2 to 6 Individual Research. Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written report which is filed with the coordinator of women's studies. Prerequisite: senior standing, consent of supervising faculty member and coordinator of women's studies.

494-1 to 6 Practicum. Supervised practical

experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general content areas recognized in the women's studies program. Prerequisite: consent of supervising faculty member and the coordinator of women's studies.

Zoology

Students enrolled in zoology courses may incur field trip or laboratory expenses of \$5 to \$25.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: consent of instructor, 300 or advanced standing in biology.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication, and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Offered fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

404-3 Evolutionary Biology. Concepts and principles of modern evolutionary theory at a level appropriate for upper-division majors and graduate students in any biological science. Prerequisite: 220a,b or equivalent and BIOL 305, or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rules of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a,b and consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Offered fall semester. Prerequisite: 220a.

407-4 Parasitology. Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Offered spring semester. Prerequisite: 220a.

408-3 Herpetology. Taxonomic groups, identification, morphology, and natural history, of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Offered fall semester. Prerequisite: 220b.

409-4 Vertebrate Histology. Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and

two 2-hour laboratories per week. Offered spring semester. Prerequisite: 10 to 12 semester hours of biological science.

413-6 (3,3) The Invertebrates. (a) Structure, phylogeny, and habitats of the lower invertebrates through lophophorates and deuterostomes except echinoderms. (b) Structure, phylogeny, and habitats of the higher invertebrates including echinoderms, molluscs, annelids, and arthropods. Three 2-hour laboratories per week. Offered spring semester. (a) alternate even years; (b) alternate odd years. Prerequisite: 220a.

414-4 Freshwater Invertebrates. Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered spring semester. Prerequisite: 220a.

415-3 Limnology. Lakes and inland waters; the organisms living in them, and the factors affecting those organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered fall semester. Prerequisite: 220a.

421-4 Histological Techniques. Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Offered fall semester. Prerequisite: 10 semester hours of biological science.

426-3 Comparative Endocrinology. Comparison of mechanisms influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Includes ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Offered spring semester. Prerequisite: consent of instructor.

460-2 Upland Game Birds. Identification, life history, ecology, and management. One lecture and one 2-hour laboratory per week; there will be up to three additional field trips. Offered spring term. Prerequisite: 220b or consent of instructor.

461-3 Mammalogy. Taxonomic characteristics, identification, and natural history of mammals. Two 1-hour lectures and one 2-hour laboratory per week. Offered spring semester. Prerequisite: 220b.

462-3 Waterfowl. Identification, life history, ecology, and management. Two lectures and one 2-hour laboratory per week; there will be three or four Saturday field trips. Prerequisite: 220b or consent of instructor.

463-3 Game Mammals. Natural history and management. Two lectures and one 2-hour laboratory per week. Prerequisite: 220b or consent of instructor.

464-3 Wildlife Administration and Policy. Responsibilities of private, state, and federal natural resources management agencies. Legal and political processes in areas of wildlife and natural resources. Three lectures per week. Offered spring semester. Prerequisite: consent of instructor.

465-3 Ichthyology. Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per

week. Offered spring semester. Prerequisite: 220b.

466-3 Fish Management. Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Offered fall semester. Prerequisite: 10 hours of biological science.

467-3 Ornithology. Classification and recognition of birds and the study of their songs, nests, migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Offered spring semester. Prerequisite: 220b.

468-6 (3,3) Wildlife Biology. Basic concepts and techniques for managing wildlife populations and their habitats. A basic ecology course is desirable as background for this course. (a) Principles. Three 1-hour lectures per week. (b) Techniques. Two 3-hour laboratory sessions per week, four of which may be field trips on Saturdays. Offered fall semester. Prerequisite: 10 semester hours of biological science; concurrent enrollment in 468a and 468b desirable.

471-3 Entomology. Structure, classification, and life histories of insects. One lecture and two 2-hour laboratories per week. Offered fall semester. Prerequisite: 220a.

473-3 Aquatic Entomology. Structure, classification, and biology of aquatic insects. One lecture and two 2-hour laboratories per week. Offered spring semester. Prerequisite: 220a.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered fall semester. Prerequisite: one year of biological science or permission of instructor.

480-3 to 5 Research Methods in Animal Behavior. Skills relevant to doing research in animal behavior. Guided self-instructional format, with two 3-hour periods scheduled weekly, primarily as question-answer and evaluation sessions. Offered spring semester. Prerequisite: at least B work in 478, or permission of instructor.

482-1 Zoology Seminar for Seniors. Each student reports on a selected topic, using original scientific literature, and the report is discussed by the class. One meeting per week. Offered fall, spring, summer terms. Not for graduate credit. Mandatory Pass/Fail. Prerequisite: senior standing or 24 hours of life sciences completed.

485-2 to 4 Special Topics in Zoology. Examination of topics of special interest not available in other departmental courses. Offered in response to student need and faculty availability. (a) Fish health. Prerequisite: consent of instructor.

493-1 to 6 Honors Research. Individual research for honors students in zoology. Prerequisite: approval by department chair and a faculty supervisor. For undergraduate credit only.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and/or with

methods of field study, collection, and preservation. Offered fall, spring, summer semesters. Prerequisite: consent of department.

497-3 Helminthology. Identification, structure, physiology, and life history of parasitic helminths. Three lectures per week. Prerequisite: 407.

512-2 Animal Geography. Considers the effects of historical and ecological factors on animal distribution. Two meetings per week. Prerequisite: consent of instructor.

514-3 Advanced Entomology. Morphology, physiology, systematics, and distribution of insects. One lecture and two 2-hour laboratories. Prerequisite: 471.

520-3 Advanced Invertebrates. The nature and life of invertebrate animals with emphasis on comparative form, function, behavior, and occurrence. Three 2-hour meetings per week. Prerequisite: consent of instructor.

521-3 Stream Ecology. The physical, chemical, and biological factors affecting organisms in streams. Two lectures per week and one 4-hour laboratory alternate weeks. Prerequisite: 415 and consent of instructor.

525-3 Cytology. (Same as Botany 525.) An analysis of the subcellular and cytochemical organization of the cell. Structural-functional aspects of organelles, membranes, and other cellular components, their relationship to the metabolic nucleus, substructural organization of hereditary material, and subcellular aspects of mitosis and meiosis are emphasized. Two lectures and one laboratory per week.

530-3 Wildlife Diseases. Introduction to the causes and nature of diseases of wildlife with emphasis on wild mammals and birds. The relationship of disease to the population ecology of species will be emphasized further. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

540-3 Factors in Animal Reproduction. Genetic and physiological factors in determination, differentiation, and modification of sex in animals. Three lectures a week. Prerequisite: consent of instructor.

564-1 to 2 Fish Culture Techniques. Practical experience in fish culture techniques. Course consists of modules which require student participation in hands-on experience, (e.g., spawning, induction of spawning, production of fry, operation and grading, diagnosis and treatment of parasites and diseases, and transporting of fish). One credit for completion of 2 modules. Register any semester, one year to complete elected number of modules. Written report and examination required for each module. Cost incurred by student varies with modules selected. Prerequisite: 566 or consent of instructor.

565-3 Environmental Physiology of Fish. Synthesis of effects of pollutants on physiological processes of fish. Course begins with an overview of fish physiology. Topics include: concepts, methods, and measurements in aquatic toxicology; histopathological, physiological, and behavioral responses to pollutants; and toxicity of heavy metals, organics,

particulates, and other pollutants. Three lectures per week. Prerequisite: 465 or consent of instructor.

566-3 Fish Culture. Production of game, food, and bait fishes. Design of facilities, chemical and biological variables, spawning techniques, diseases and nutrition. Two lectures per week and one 4-hour laboratory alternate weeks. Prerequisite: consent of instructor.

568-2 Fish Stock Assessment. Methods of characterizing fish populations including mortality rates, age growth analysis, population sampling, yield models, habitat evaluation procedures, and creel survey techniques. Two 1-hour meetings per week. Prerequisite: 466 or consent of instructor.

569-3 Advanced Fisheries Management. Advanced topics related to the management of fisheries including urban fisheries, native American fisheries, freshwater commercial fisheries, Great Lakes fisheries, impact of power generating plants on fishes, and indepth consideration of indices of community structure and current topics in fish management. Three lectures per week. Prerequisite: 466 or consent of instructor.

570-3 Advanced Fish Culture. Methods for the production of coldwater, coolwater, warmwater, and tropical species. Three lectures a week. Prerequisite: 566 or consent of instructor.

573-3 Physiological Ecology. The role of physiological, morphological, and behavioral adaptations and adjustments in the ecology of vertebrate organisms with special emphasis on examining the energy balance and environment as it influences vertebrate ecology. Two hours of lecture and one 2-hour laboratory. Prerequisite: BIOL 307 or equivalent, and consent of instructor.

577-2 Population Ecology. Principles of population dynamics as related to animals. Two lectures per week. Prerequisite: consent of instructor.

578-2 Population Genetics. Genetic structure of populations, factors causing changes, and principles governing rate and direction of change. Two lectures per week. Prerequisite: consent of instructor.

582-1 to 4 (1,1,1,1) Graduate Zoology Seminars. Special topics in zoology. Consult department for each semester's topic. One meeting per week. Prerequisite: consent of instructor and department.

583-1 Teaching Zoology in College. Methods, practices, and objectives in teaching zoology at the college/university level. Designed as part of the apprenticeship program for preparation of college teachers. Required of departmental teaching assistants. One hour lecture per week. Graded *S/U* only. Prerequisite: graduate status in a biological science.

585-36 (3,3,3,3,3,3,3,3,3,3,3,3) Seminar.

Advanced study of special topics in zoology. (a) Seminar in animal behavior. (b) Seminar in neurobiology of metazoa. Survey of the cytology and histology of nerve cells, and the sheath elements separately as they appear in organized tissues of metazoa. (c) Seminar in ecosystems. (d) Seminar in wetland ecology. (e) Seminar in wildlife ecology: impact of land use. (f) Seminar in fish biology. Survey of fish biology and ecology dealing largely with topics not covered in 465. Life history strategies, physiology, and other fundamental biological features of fishes will be covered in some depth. Prerequisite: 465. (g) Seminar in parasitology. (h) Seminar on the amphibia. (j) Seminar in developmental biology. Detailed coverage of current topics of interest in developmental biology; the course will emphasize interacting systems in the development of both vertebrates and invertebrates, from the molecular to the tissue levels. Prerequisite: 300, BIOL 309, or equivalent. (z) Seminar in selected topics. Prerequisite: consent of instructor or department.

593-1 to 12 Individual Research. Investigation in zoology other than those for theses. Only three hours may be credited toward a degree. Some costs may be borne by the student.

597-1 to 12 Advanced Zoological Techniques. Individualized techniques or experimental procedures to prepare for dissertation research. May be taken at another university. Number of credits determined by committee. Graded on *S/U* basis following final report submitted to major adviser. Prerequisite: admission to Ph.D. degree program in zoology and consent of major adviser.

598-1 to 12 Research Paper. Preparation of research paper for Master of Science degree. Only two hours may count toward the degree. Some cost may be borne by the student. Prerequisite: consent of instructor. Graded *S/U* only.

599-1 to 12 Research and Thesis. Thesis for Master of Arts degree. Only 6 hours may count toward the degree. Some cost may be borne by student. Prerequisite: consent of instructor. Graded *S/U* only.

600-1 to 32 (1 to 16 per semester) Research and Dissertation. Research and dissertation for Doctor of Philosophy degree. Some cost may be borne by student. Graded *S/U* only. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

4 Faculty

Graduate instruction at Southern Illinois University at Carbondale is the responsibility of the graduate faculty. Although the graduate faculty is not organized into departments, its members are normally affiliated with specific disciplines. The faculty listed below are arranged in terms of their departmental affiliations. The college or school in which the department is located is also noted.

Faculty teaching in interdisciplinary programs are listed under the appropriate program and are identified as to the department in which they hold an appointment.

The first of the two dates listed with the name of a faculty member indicates the year in which the highest degree was earned; the second date indicates the year when the person first became a faculty member at Southern Illinois University at Carbondale.

Preceding the graduate faculty is a list of faculty members and students elected to the Graduate Council for the year.

Members of the Graduate Council for 1988-1989

H. Arnold Barton, Professor, History
Frederick Betz, Professor, Foreign Languages and Literatures
Lilly Boruszkowski, Associate Professor, Cinema and Photography
Ronald Browning, Associate Professor, School of Medicine
Patricia L. Carrell, Associate Dean, Graduate School
Kenneth K. Collins, Associate Professor, English
William Crimando, Professor, Rehabilitation
Russell R. Dutcher, (Ex-Officio), Dean's Council Representative, College of Science
William Elliott, Associate Professor, Journalism
Richard E. Falvo, Associate Dean, Graduate School
Faye Fleeger, Student, Vocational Education Studies
Mark Fischman, Associate Professor, Physical Education
Susan Ford, Associate Professor, Anthropology
Peter Frederick, Student, Botany
William Garner, Associate Professor, Political Science

John Guyon, (Ex-Officio), President
Debra Harley, Student, Rehabilitation
David Kammler, Professor, Mathematics
Shashi Lalvani, Associate Professor, Mechanical Engineering and Energy Processes
Dennis Leitner, Associate Professor, Educational Psychology
Philip Lyons, Student, Educational Administration and Higher Education
John Martinko, Associate Professor, Microbiology
Margaret Matthias, Associate Professor, Curriculum and Instruction
Sidney Miller, Professor, Special Education
Victoria Molfese, (Ex-Officio), Associate Dean, Graduate School
Aristotel Pappelis, Professor, Botany
Kenneth Peterson, (Ex-Officio), Dean, Library Affairs
Thaddaus Phillips, Student, Rehabilitation
Steve Scheiner, Professor, Chemistry
Benjamin Shepherd, (Ex-Officio), Vice President for Academic Affairs and Research
Donald Stucky, Professor, Plant and Soil Science
John Summey, Associate Professor, Marketing
James Van Oosting, Associate Professor, Speech Communications
John Yopp, (Ex-Officio), Dean, Graduate School

Accountancy

COLLEGE OF BUSINESS AND ADMINISTRATION

Barron, Mary Noel, Associate Professor, *Emerita*, C.P.A., M.B.A., University of Michigan, 1946; 1948.

Basi, Bartholomew, Professor, C.P.A., D.B.A., Indiana University, 1971; 1978. Financial accounting, and taxation of closely-held companies.

Burger, Clifford R., Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947; 1958.

Hahn, Randall, Assistant Professor, C.P.A., Ph.D., University of Kentucky, 1984; 1984. Taxation and auditing.

King, James, Assistant Professor, C.P.A., Ph.D., Indiana University, 1988; 1987. Behavioral auditing and managerial accounting.

Karnes, Allan, Assistant Professor, C.P.A., M.A., J.D., Southern Illinois University at Carbondale, 1986; 1977. Taxation and auditing.

Masoner, Michael M., Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975; 1978. Accounting theory, cost accounting.

Rigsby, John T., Assistant Professor, C.P.A., Ph.D., Memphis State University, 1986; 1984. Financial accounting and auditing.

Rivers, Richard, Associate Professor, C.P.A., D.B.A., Kent State University, 1976; 1978. Quantitative decision models, and information systems.

Sterner, Julie, Assistant Professor, C.P.A., Ph.D., Saint Louis University, 1982; 1985. Financial accounting.

Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954; 1955.

Tucker, Marvin W., Professor, Ph.D., University of Alabama, 1966; 1966. Financial accounting, managerial and cost accounting.

Welker, Robert B., Professor, Ph.D., Arizona State University, 1977; 1987. Financial accounting.

Wright, Roland M., Professor, *Emeritus*, C.P.A., Ph.D., University of Iowa, 1962; 1966.

Wu, Fred, Professor and *Director*, C.M.A., Ph.D., Texas Tech University, 1975; 1984. Information systems and managerial accounting.

Agribusiness Economics

SCHOOL OF AGRICULTURE

Beaulieu, Jeffrey R., Assistant Professor, Ph.D., Iowa State University, 1984; 1983.

Beck, Roger J., Assistant Professor, Ph.D., Pennsylvania State University, 1977; 1984.

Eberle, Phillip R., Assistant Professor, Ph.D., Iowa State University, 1983; 1983.

Harris, Kim S., Assistant Professor, Ph.D., University of Illinois, 1985; 1984.

Herr, William McD., Professor and *Chair*, Ph.D., Cornell University, 1954; 1957.

Keeper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938; 1950.

Kraft, Steven E., Associate Professor, Ph.D., Cornell University, 1976; 1980.

Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967; 1966.

Wills, Walter J., Professor, *Emeritus*, Ph.D., University of Illinois, 1952; 1956.

Agricultural Education and Mechanization

SCHOOL OF AGRICULTURE

Benton, Ralph A., Professor, *Emeritus*, Ph.D., University of Illinois, 1955; 1956.

Doerr, William A., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1973; 1965.

Legacy, James, Professor, Ph.D., Cornell University, 1976; 1977.

Reneau, Fred, Associate Professor, Ed.D., Virginia Tech, 1979; 1979.

Smith, Owen R., Assistant Professor, Ph.D., Purdue University, 1988; 1988.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967.

Wolff, Robert L., Professor and *Chair*, Ph.D., Louisiana State University, 1971; 1972.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949.

Animal Science, Food, and Nutrition

SCHOOL OF AGRICULTURE

Arthur, Robert, Professor and *Chair*, Ph.D., University of Missouri, 1970; 1977. Monogastric nutrition, biochemistry.

Ashraf, Hea-Ran Lee, Assistant Professor, Ph.D., Iowa State University, 1979; 1980. Food science, food technology.

Becker, Henrietta, Lecturer, *Emerita*, M.S., Southern Illinois University at Carbondale, 1961; 1964.

Endres, Jeannette M., Professor, Ph.D., St. Louis University, 1972; 1975. Community nutrition, dietetics, life cycle nutrition.

Gardiner, Catherine, Assistant Professor, Ph.D., Oregon State University, 1988; 1988. Molecular biology.

Goodman, Bill L., Professor, Ph.D., Ohio State University, 1959; 1958. Animal breeding and genetics, poultry production.

Harper, Jenny M., Professor, *Emerita*, Ph.D., Cornell University, 1941; 1958.

Hausler, Carl L., Associate Professor, Ph.D., Purdue University, 1970; 1970. Reproductive physiology.

Hinners, Scott W., Professor, Ph.D., *Emeritus*, University of Illinois, 1958; 1951.

Kammlade, W. G., Jr., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951; 1954.

King, Sheryl S., Assistant Professor, Ph.D., University of California, Davis, 1982; 1982. Reproduction physiology, equine science.

Konishi, Frank, Professor, *Emeritus*, Ph.D., Cornell University, 1958.

Kroening, Gilbert H., Professor, Ph.D., Cor-

nell University, 1965; 1969. Swine production, monogastric nutrition.

Olson, Howard H., Professor, Ph.D., University of Minnesota, 1952; 1954. Reproductive physiology; dairy cattle production; international animal agriculture.

Payne, Irene R. Professor, *Emerita*, Ph.D., Cornell University, 1960; 1965.

Strack, Louis E., Associate Professor, D.V.M., University of Illinois, 1961; 1968. Veterinary medicine.

Welch, Patricia K., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1974. Community nutrition, food service management.

Woody, Harold Dee, Associate Professor, Ph.D., Michigan State University, 1978; 1978. Ruminant nutrition, growth.

Young, Anthony W., Professor, Ph.D., University of Kentucky, 1969; 1980. Ruminant nutrition, forages.

Anthropology

COLLEGE OF LIBERAL ARTS

Adams, Jane H., Assistant Professor and *Director* of undergraduate studies, Ph.D., University of Illinois-Urbana, 1987; 1987. Cultural anthropology, political economy, agricultural systems, history, gender roles; rural US, upper Amazon. Director of Undergraduate Studies.

Bender, M. Lionel, Professor, Ph.D., University of Texas at Austin, 1968; 1971. Linguistic anthropology and archaeology, anthropology of knowledge, language classification; Ehtopia, Africa.

Butler, Brian M., Adjunct Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977. Archaeology, cultural resource management, prehistoric subsistence and settlement systems; Southeastern and Midwestern USA.

Corruccini, Robert S., Professor, Ph.D., University of California, Berkeley, 1975; 1978. Physical anthropology, paleontology, osteology, multivariate methods, dental anthropology, epidemiology; India, Italy.

Dark, Philip J. C., Professor, *Emeritus*, Ph.D., Yale University, 1954; 1960.

Ford, Susan M., Associate Professor and *Director of Graduate Studies*, Ph.D., University of Pittsburgh, 1980; 1979. Physical anthropology, primate paleontology, evolutionary theory, anatomy, South America.

Gumerman, George J., Professor, Ph.D., University of Arizona, 1968; 1973. Archaeology, archaeological cooperatives, paleoenvironmental reconstructions, remote sensing, conservation archaeology; US Southwest and Micronesia.

Handler, Jerome S., Professor, Ph.D., Brandeis University, 1965; 1962. Cultural anthropology, ethnohistory, Afro-American studies, slavery, plantation and peasant communities, historical archaeology; Caribbean West Africa.

Hill, Jonathan D., Assistant Professor, Ph.D., Indiana University, 1983; 1986. Social

organization, ecology, ethnomusicology, American Indians; South America.

Kelley,

J. Charles, Professor, *Emeritus*, Ph.D., Harvard University, 1948; 1950.

Maring, Ester G., Assistant Professor, Ph.D., Indiana University, 1969; 1965. Folklore, ethnology, acculturation, comparative religions, customary law and ethics; Southeast Asia, US Pueblos.

Maring, Joel M., Associate Professor, Ph.D., Indiana University, 1967; 1963. Linguistics, educational anthropology, ethnomusic; US Southwest, Southeast Asia, New Guinea.

Muller, Jon D., Professor and *Chair*, Ph.D., Harvard University, 1967; 1966. Archaeology, art analysis and culture theory; Eastern USA, Africa.

Rands, Robert L., Professor, Ph.D., Columbia University, 1952; 1966. Archaeology, ceramic technology, trace-element analysis, comparative art; Mesoamerica.

Riley, Carroll L., Distinguished Professor, *Emeritus*, Ph.D., University of New Mexico, 1952; 1955.

Taylor, Walter W., Professor, *Emeritus*, Ph.D., Harvard University, 1943; 1958.

Teltser, Patrice A., Assistant Professor, Ph.D., University of Washington, 1988; 1988. North American prehistory, evolutionary theory, quantitative methods, lithic and ceramic analysis; eastern US.

Art

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Abrahamson, Roy E., Associate Professor, Ed.D., Columbia University, 1965; 1965. Art education.

Addington, Aldon M., Associate Professor, M.F.A., Cranbrook Academy of Art, 1966; 1967. Sculpture.

Archer, Richard, Assistant Professor, M.S., Governor's State University, 1979; 1968. Design.

Bernstein, Lawrence A., Associate Professor, M.F.A., Cranbrook Academy of Art, 1953; 1962. Drawing and painting.

Bhattacharya, Sunand, Assistant Professor, M.A., Ohio State University, 1987; 1987. Design.

Boysen, Bill H., Associate Professor, M.F.A., University of Wisconsin, 1966; 1966. Ceramics, glassblowing.

Briggs, Larry S., Associate Professor, B.F.A., University of Oklahoma, 1956; 1985. Visual communications.

Busch, Larry, Associate Professor, M.S., Southern Illinois University at Carbondale, 1970; 1970. Design.

Chapman, Gretel, Associate Professor, Ph.D., University of Chicago, 1964; 1984. Art history.

Deller, Harris, Associate Professor, M.F.A., Cranbrook Academy of Art, 1973; 1975. Ceramics.

Feldman, Joel B., Associate Professor, M.F.A., Indiana University, 1967; 1973. Printmaking, lithography.

Fink, Herbert L., Distinguished Professor, M.F.A., Yale University, 1958; 1961. Drawing and printmaking, etching.

Greenfield, Sylvia R., Professor, M.F.A., University of Colorado, 1967; 1968. Drawing and painting.

Johnson, Evert A., Lecturer, M.A., University of Iowa, 1954; 1966. Curator of art, University Museum and Art Galleries.

Kington, L. Brent, Professor and *Director*, M.F.A., Cranbrook Academy of Art, 1961; 1961. Metals, blacksmithing.

Lintault, M. Joan, Professor, M.F.A., Southern Illinois University at Carbondale, 1962; 1973. Fibers and weaving.

Mavigliano, George J., Associate Professor, M.A., Northern Illinois University, 1967; 1970. American art and architecture.

Mawdsley, Richard W., Professor, M.F.A., University of Kansas, 1969; 1978. Metalsmithing.

Onken, Michael O., Associate Professor, M.A., Northern Illinois University, 1966; 1968. Drawing and painting.

Paulson, Robert L., Professor, M.F.A., University of Wisconsin, 1967; 1967. Drawing and painting.

Saunders, Ann, Assistant Professor, M.F.A., Syracuse University, 1984; 1986. Visual communications.

Shay, Edward H., Professor, M.F.A., University of Illinois, 1971; 1978. Drawing, painting, and printmaking.

Sullivan, James E., Associate Professor, M.A., University of California, Los Angeles, 1965; 1969. 19th century and modern art and interdisciplinary studies.

Sullivan, Milton F., Professor, M.A., Columbia University, 1951; 1952. Sculpture.

Walsh, Thomas J., Professor, M.F.A., University of Michigan, 1962; 1967. Sculpture and foundry.

Wells, David, Assistant Professor, M.A., Ohio State University, 1987; 1987. Design.

Whitlock, John J., Adjunct Associate Professor, Ed.D., Indiana University, 1971; 1978. Museum and art galleries.

Wood, Dan D., Associate Professor, M.A., University of Iowa, 1968; 1968. General studies and drawing.

Youngblood, Michael, Associate Professor, Ph.D., University of Oregon, 1975; 1979. Art education.

Botany

COLLEGE OF SCIENCE

Ashby, William C., Professor, Ph.D., University of Chicago, 1950; 1960. Stripmine reclamation; forest ecology; tree growth.

Bissing, Donald R., Assistant Professor, Ph.D., Claremont Graduate School, 1976; 1976. Ecological and systematic plant anatomy.

Bozzola, John J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1983. Transmission and scanning electron microscopy.

Clark, Kathleen A., Assistant Professor,

Ph.D., University of Kansas, 1983; 1987. Plant physiology; bioenergetics; membrane transport.

Crandall-Stotler, Barbara, Professor, Ph.D., University of Cincinnati, 1968; 1970. Developmental morphology; bryology; experimental studies; ultrastructure; phylogenesis.

Matten, Lawrence C., Professor, Ph.D., Cornell University, 1965; 1965. Paleobotany; plant anatomy; Devonian-Mississippian plants; evolution of ferns, progymnosperms, and gymnosperms; early seeds.

Mohlenbrock, Robert H., Distinguished Professor, Ph.D., Washington University, 1957; 1957. Taxonomy; Illinois flora; leguminosae; endangered species.

Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934; 1959.

Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957; 1960. Plant physiology; quantitative interference microscopy; quantitative cytochemistry and cytofluorescence.

Richardson, John A., Associate Professor, M.F.A., Ohio University, 1969; 1969. Botanical photography.

Robertson, Philip A., Associate Professor, Ph.D., Colorado State University, 1968; 1970. Plant community ecology.

Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961; 1962. Plant physiology; absorption and translocation of micronutrient elements; physiology of tachyplants.

Stotler, Raymond E., Associate Professor, Ph.D., University of Cincinnati, 1968; 1969. Bryology; biosystematics; regional flora; community structure.

Sundberg, Walter J., Associate Professor, Ph.D., University of California, 1971; 1972. Mycology; cytology; systematics, ecology, and ultrastructure of fungi with emphasis on Basidiomycetes.

Tindall, Donald R., Professor, Ph.D., University of Louisville, 1966; 1966. Phycology; algal development under natural conditions; ecology of aquatic vascular plants; toxic algae.

Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966; 1968. Ethnobotany; taxonomy; biosystematics; phytogeography.

Verduin, Jacob, Professor, *Emeritus*, Ph.D., Iowa State University, 1947; 1964.

Voigt, John W., Professor and *Chair*, Ph.D., University of Nebraska, 1950; 1950. Ecology; grasslands.

Yopp, John H., Professor, Ph.D., University of Louisville, 1969; 1970. Plant physiology; developmental plant physiology; environmental regulation of metabolic pathways.

Center for the Study of Crime, Delinquency, and Corrections

COLLEGE OF HUMAN RESOURCES

Anderson, Dennis B., Associate Professor and *Director*, Ed.D., University of Nebraska, 1970; 1970. Educational psychology; forensic and criminal justice psychology.

Castellano, Thomas C., Assistant Professor, Ph.D., State University of New York, Albany, 1986; 1986. Criminal justice; juvenile justice; research methods.

Coughlin, Joseph S., Professor, *Emeritus*, M.S.W., A.C.S.W., University of Wisconsin, 1954; 1973.

Ferdinand, Theodore N., Professor, Ph.D., University of Michigan, 1961; 1985. Social psychology; juvenile delinquency; juvenile justice; history of crime and criminal justice.

Johnson, Elmer H., Distinguished Professor, *Emeritus*, Ph.D., University of Wisconsin, 1950; 1966.

LeBeau, James L., Assistant Professor, Ph.D., Michigan State University, 1978; 1985. Geography; geography of crime and criminal justice; law enforcement; quantitative methods.

Lorinskas, Robert, Associate Professor, Ph.D., University of Georgia, 1973; 1980. Political science; security.

Matthews, Charles V., Associate Professor, M.A., University of Kansas City, 1951; 1962. Guidance and counseling, psychology, higher education.

Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972; 1978. Sociology; research methods; violence.

Robinson, Cyril D., Professor, LL.B., Northwestern University, 1952; 1979. Criminal law; history and function of police; police and courts.

Timm, Howard W., Associate Professor, Ph.D., Michigan State University, 1979; 1980. Forensic hypnosis research; security.

Wilson, Nanci K., Associate Professor, Ph.D., University of Tennessee, 1972; 1972. Sociology; theoretical criminology; gender and crime.

Chemistry and Biochemistry

COLLEGE OF SCIENCE

Arnold, Richard T., Professor, *Emeritus*, Ph.D., University of Illinois, 1937; 1969.

Bausch, Mark J., Assistant Professor, Ph.D., Northwestern University, 1982; 1987. Organic radical anion basicities, radical acidities, stability of organic cations.

Beyler, Roger E., Professor, *Emeritus*, Ph.D., University of Illinois, 1949; 1959. Organic, steroids.

Bolen D. Wayne, Professor, Ph.D., Florida State University, 1969; 1971. Physical biochemistry, dynamics and thermodynamics accompanying interactions of substrates and inhibitors with enzymes, fast-reaction kinetics, calorimetry of biochemical transformations.

Brown, George E., Professor, *Emeritus*, Ph.D., Iowa State University, 1941; 1962.

Caskey, Albert L., Associate Professor, Ph.D., Iowa State University, 1961; 1964. Analytical, reactions and analytical applications of o-nitrosonaphthols, trace constituents in biological samples, design of chelating agents, spectrophotometric determinations, coordination compounds of cobalt, trace substances and environmental health.

Davis, Joe M., Assistant Professor, Ph.D., University of Utah, 1985; 1987. Analytical, mass transport, separations, electrochemistry.

Dunaway, George, Associate Professor, Ph.D., University of Oklahoma, 1970; 1975. Regulation of energy/metabolism during diabetes; development and aging; induction of experimental ulcers in rats.

Gupta, Ramesh, Assistant Professor, Ph.D., University of Illinois, 1981; 1984. Biochemistry, molecular biology of archaebacteria.

Guyon, John C., Professor, Ph.D., Purdue University, 1961; 1974.

Hadler, Herbert I., Professor, Ph.D., University of Wisconsin, 1952; 1966. Biochemistry, oxidative phosphorylation, chemical carcinogenesis, organellar genes.

Hadley, Elbert H., Professor, *Emeritus*, Ph.D., Duke University, 1940; 1947.

Hall, J. Herbert, Professor, Ph.D., University of Michigan, 1959; 1962. Organic, reactions of organic azides, chemistry of nitrene intermediates, reactions of singlet and triplet states, synthesis and reactions of small ring heterocyclic compounds, 1-3-dipolar additions, 2 + 2 cycloadditions, EPR studies of organic nitrogen compounds.

Hardwicke, Peter, Associate Professor, Ph.D., M.D., University of London, 1969; 1984. Biochemistry, calcium ion transport across muscle membrane, properties of actin and myosin.

Hinckley, Conrad C., Professor, Ph.D., University of Texas, 1964; 1966. Inorganic, magnetic resonance of transition metal complexes, osmium chemistry, iron chemistry in coal.

Koropchak, John A., Assistant Professor, Ph.D., University of Georgia, 1980; 1984. Analytical, atomic spectroscopy, atmospheric pressure ionization mass spectrometry, metal speciation, plasma chemistry.

Koster, David F., Professor, Ph.D., Texas A&M University, 1965; 1967. Physical, molecular structure, NMR, vibrational spectroscopy, laser-induced reactions.

Lewis-Bevan, Wyn, Assistant Professor, Ph.D., University of Cambridge, 1983; 1987. Physical chemistry, high resolution gas phase spectroscopy using infrared semi-conductor diode lasers, molecular ions.

Meyers, Cal Y., Professor, Ph.D., University of Illinois, 1951; 1964. Organic, nucleophilic vs electron-transfer reactions and reactivities of anions, halogenation of anions with CX₄, electron-transfer pathways in biological reactions, correlation of structure with in vivo and receptor-site activity of estrogens.

Neckers, J. W., Professor, *Emeritus*, Ph.D., University of Illinois, 1927; 1927.

Phillips, John B., Associate Professor, Ph.D., University of Arizona, 1977; 1977. Analytical, chromatography, surface chemistry, laboratory computing, instrumentation.

Scheiner, Steve, Professor, Ph.D., Harvard University, 1976; 1978. Physical, theoretical biophysical chemistry, protein conformation, hydrogen bonding, proton transfers, opiate derivatives.

Schmit, Joseph G., Associate Professor,

Ph.D., Purdue University, 1971; 1976. Biochemistry, developmental biochemistry and genetics, regulation of enzymatic activity, genetic and biochemical control of amino acid metabolism, molecular basis of circadian rhythms.

Schmulbach, C. David, Professor, Ph.D., University of Illinois, 1958; 1965. Inorganic stabilization of uncommon oxidation states, activation of small molecules by complexation and homogeneous catalysis, applications of high pressure spectroscopy.

Shriver, John W., Associate Professor, Ph.D., Case Western Reserve University, 1977; 1981. Biochemistry, nuclear magnetic resonance spectroscopy, mechanism of muscle contraction, energy transduction, myosin structure changes associated with force production in muscle.

Smith, Gerard V., Professor, Ph.D., University of Arkansas, 1959; 1966. Organic, mechanisms of surface reactions, heterogeneous catalytic hydrogenation and exchange, asymmetric catalysis, catalytic oxidation and ozonation, molecular probes for characterization of metal surfaces, metallic glasses as catalysts, iron sulfides as catalysts, coal conversion catalysis, stereo-chemistry, hydrodesulfurization.

Trimble, Russell F., Professor, Ph.D., Massachusetts Institute of Technology, 1951; 1954. Inorganic coordination compounds, synthesis, chemical literature, history of chemistry.

Tyrrell, James, Professor and *Chair*, Ph.D., University of Glasgow, 1963; 1967. Physical, theoretical calculations on atoms and molecules.

Van Lente, Kenneth A., Professor, *Emeritus*, Ph.D., University of Michigan, 1931; 1931.

Woodruff, Michael L., Assistant Professor, Ph.D., University of Wisconsin-Madison, 1978; 1986. Biochemistry, interactions within nervous system controlling nerve cell response, ion channel activity modification.

Wotiz, John H., Professor, Ph.D., Ohio State University, 1948; 1967. Organic, acetylenes, allenes, the propargylic rearrangement, polyacetylenes, domestic and foreign institutional research, history of chemistry.

Cinema and Photography

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Blumenberg, Richard M., Professor, Ph.D., Ohio University, 1969; 1970. Screenwriting and cinema studies.

Boruszkowski, Lilly A., Associate Professor, M.F.A., Northwestern University, 1979; 1982. Cinema production.

Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969; 1976. Cinema production.

Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975; 1975. Cinema production.

Gilmore, David A., Associate Professor and *Chair*, M.F.A., Ohio University, 1969; 1969. Photography.

Horrell, C. William, Professor, *Emeritus*, Ed.D., Indiana University, 1955; 1949.

Kolb, Gary P., Associate Professor, M.F.A., Ohio University, 1977. Photography.

Mercer, John, Professor, *Emeritus*, Ph.D., University of Nebraska, 1952; 1958.

Paine, Frank, Associate Professor, *Emeritus*, B.S., Iowa State University, 1950; 1960.

Powell, W. Duane, Assistant Professor, M.F.A., University of Illinois, 1977; 1978. Photography.

Roddy, Jan Peterson, Assistant Professor, M.F.A., University of Illinois, 1987; 1988. Photography.

Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961; 1971. Photography.

Williams, Tony, Assistant Professor, Ph.D., University of Manchester, 1974; 1984. Cinema studies.

Civil Engineering and Mechanics

COLLEGE OF ENGINEERING AND TECHNOLOGY

Cook, Echol E., Professor, Ph.D., Oklahoma State University, 1970; 1971. Biological waste treatment, fixed bed reactors, solid waste disposal.

Craddock, James N., Associate Professor, Ph.D., University of Illinois, 1979; 1980. Solid mechanics, stress analysis; computational mechanics, composite materials.

Das, Braja M., Professor and *Chair*, Ph.D., University of Wisconsin, 1972; 1987. Geotechnical engineering, foundation design, soil improvement.

Davis, Philip K., Professor, Ph.D., University of Michigan, 1963; 1964. Fluid mechanics, hydraulics, solid-liquid separation and vibrations.

DeVantier, Bruce A., Assistant Professor, Ph.D., University of California-Davis, 1983; 1983. Water quality modeling, sediment transport, turbulence modeling, finite element methods.

Evers, James L., Associate Professor, Ph.D., University of Alabama, 1969; 1969. Compressible fluid flows, dynamics, pneumatic transport, hydraulic transients.

Kassimali, Aslam, Associate Professor, Ph.D., University of Missouri, 1976; 1980. Structural engineering, nonlinear structural analysis, structural dynamics and stability.

Nowacki, C. Raymond, Associate Professor, Ph.D., University of Illinois, 1965; 1963. Structural analysis and design of bridges and buildings.

Ponce-Campos, C. David, Associate Professor, Ph.D., University of Michigan, 1978; 1985. Fluid transients, multiphase flow, numerical methods, coastal engineering.

Puri, Vijay, Assistant Professor, Ph.D., University of Missouri-Rolla, 1984; 1986. Geotechnical engineering, soil dynamics, machine foundations, liquefaction of soils.

Ray, Bill T., Assistant Professor, Ph.D., University of Missouri-Rolla, 1984; 1985. Chemical and biological treatment, fixed-film reac-

tors, residuals management, toxic waste treatment.

Rubayi, Najim, Professor, Ph.D., University of Wisconsin, 1966; 1966. Solid mechanics, vibrations, experimental stress analysis, and photoelasticity.

Sami, Sedat, Professor, Ph.D., University of Iowa, 1966; 1966. Fluid mechanics, hydraulics and hydrology.

Wright, Maurice, Professor, Ph.D., University of Wales, United Kingdom, 1962; 1984. Fiber reinforced composites and fracture mechanics.

Yen, Shing-Chung, Assistant Professor, Ph.D., Virginia Polytechnic Institute, 1984; 1984. Composite materials, experimental mechanics, solid mechanics, and structural dynamics.

Communication Disorders and Sciences

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Anderson, John O., Professor, Emeritus, Ph.D., Ohio State University, 1950; 1950.

Blache, Stephen E., Associate Professor, Ph.D., Ohio University, 1970; 1971. Phonology, distinctive feature theory, experimental phonetics, research design.

Brackett, Isaac P., Professor, Emeritus, Ph.D., Northwestern University, 1947; 1951.

Brutten, Gene J., Professor and Chair, Ph.D., University of Illinois, 1957; 1957. Studying, research design, behavior therapy, aural rehabilitation.

Garbutt, Cameron W., Associate Professor, Emeritus, Ph.D., Louisiana State University, 1951; 1947.

Hoshiko, Michael S., Professor, Ph.D., Purdue University, 1957; 1957. Biofeedback, instrumentation, speech science, neuropsychology of speech.

Koepp-Baker, Herbert, Professor, Emeritus, Ph.D., University of Iowa, 1938; 1961.

Lehr, Robert P. Jr., Professor, Ph.D., Baylor University, 1971; 1973. Neuroanatomy, medical problems of speech.

Moncur, John P., Professor, Emeritus, Ph.D., Stanford University, 1950; 1972.

Robey, Randall R., Assistant Professor, Ph.D., Ohio University, 1984; 1984. Neurogenic communication disorders, multivariate statistics.

Ruder, Kenneth F., Professor, Ph.D., University of Florida, 1969; 1984. Psycholinguistics-child language and language intervention.

Schultz, Martin C., Professor, Ph.D., University of Iowa, 1955; 1986. Audiology, methodology.

Community Development

GRADUATE SCHOOL

Bhattacharyya, Jnanabrata, Associate Professor, Ph.D., University of Delhi, India, 1969; 1968. Community development, comparative community development, international

development, political theory and social and economic change, peasant movements.

Denise, Paul S., Assistant Professor, Ph.D., University of California, Berkeley, 1974; 1968. Community development, citizen participation, urban sociology, social change, race and ethnic relations, social stratification, experiential education, and social impact of energy development.

Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971; 1971. Instructional radio and TV, satellite communication, international education, international development practice.

Miller, Harry G., Professor, Ed.D., University of Nebraska, 1970; 1970.

Perk, H.F.W., Lecturer, A.B., University of California, Los Angeles, 1951; 1964. Alternative futures, design science, general systems research and methodology.

Poston, Richard W., Professor, Emeritus, B.A., University of Montana, 1940; 1953.

Schoen, Alan, Professor, Ph.D., University of Illinois, 1958; 1973.

Computer Science

COLLEGE OF LIBERAL ARTS

Crawford, Albert, Assistant Professor, Ed.D., Oklahoma State University, 1970; 1987. Programming languages, functional programming, software engineering.

Danhof, K. J., Professor, Ph.D., Purdue University, 1969; 1969. Analysis and complexity of computer algorithms, combinatorics, logic programming.

Dinsmore, J. D., Assistant Professor, Ph.D., University of California, 1979; 1984. Artificial intelligence, natural language processing, programming languages.

Gupta, Bidyut, Assistant Professor, Ph.D., University of Calcutta, 1986; 1988. Fault-tolerant computing, VLSI design, graph theory, computer networks.

Koschmann, Timothy D., Assistant Professor, Ph.D., Illinois Institute of Technology, 1987; 1988. Artificial intelligence, knowledge representation, expert systems.

Mark, Abraham M., Professor, Emeritus, Ph.D., Cornell University, 1947; 1950.

McGlinn, R. J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1976; 1981. Microcomputers, data structures, file organization, computer science education, data base management, computer managed instruction.

Phillips, Nicholas C.K., Associate Professor, Ph.D., University of Natal, 1967; 1988. Theoretical computer science, language constructs, automatic data type generation, scheduling of multiprocessors.

Srimani, P. K., Professor, University of Calcutta, 1978; 1984. Fault-tolerant computing, heuristic search, application of graph theory, data structures, analysis of algorithms.

Varol, Y. J., Professor and Chair, Ph.D., University of Wyoming, 1971; 1978. Analysis and design of computing algorithms, data

structures, information processing, discrete simulation, distributed databases.

Wainer, Michael S., Assistant Professor, Ph.D., University of Alabama, 1987; 1988. Computer graphics, parallel processing, cellular automata, self-organizing systems.

Wallis, W. D., Professor, Ph.D., University of Sydney, 1968; 1986. Combinatorics and graph theory, cryptography, optimization, complexity, programming languages.

Wright, W. E., Professor, D.Sc., Washington University, 1972; 1970. File organization, data structures, database management.

Zargham, M. R., Assistant Professor, Ph.D., Michigan State University, 1983; 1983. Computer networks, computer architecture, petri nets, VLSI.

Curriculum and Instruction

COLLEGE OF EDUCATION

Aikman, Arthur L., Professor, Ph.D., Southern Illinois University at Carbondale, 1965; 1964.

Alston, Melvin O., Professor, *Emeritus*, Ed.D., Columbia University, 1945; 1970.

Barrette, Pierre P., Associate Professor, Ed.D., University of Massachusetts, 1971; 1978.

Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1978; 1956.

Becker, Jerry P., Professor, Ph.D., Stanford University, 1979; 1967.

Bedient, Douglas, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1969.

Boykin, Arsene O., Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964; 1972.

Bradfield, Luther E., Professor, *Emeritus*, Ed.D., Indiana University, 1953; 1955.

Brod, Ernest E., Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1953; 1951.

Butts, Gordon K., Professor, *Emeritus*, Ed.D., Indiana University, 1956; 1950.

Byrd, David M., Associate Professor, Ph.D., Syracuse University, 1980; 1979.

Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963; 1964.

Copenhaver, Ron, Associate Professor, Ed.D., Indiana University, 1979; 1978.

Coscarelli, William, Associate Professor, Ph.D., Indiana University, 1977; 1986.

Cox, Dorothy, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1976; 1965.

Dale, Doris C., Professor, D.L.S., Columbia University, 1968; 1969.

Dixon, Billy G., Associate Professor and Chair, Ph.D., Southern Illinois University at Carbondale, 1967; 1961.

Eddleman, E. Jacqueline, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1969.

Erickson, Lawrence, Professor, Ph.D., University of Wisconsin, 1972; 1984.

Fletcher, Kathleen G., Associate Professor,

Emerita, M.S., University of Illinois, 1947; 1955.

Gulley, Beverly, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1975.

Hill, Margaret K., Professor, *Emerita*, Ed.D., Boston University, 1948; 1965.

Hungerford, Harold R., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1965.

Jacko, Carol, Associate Professor, Ph.D., University of Pittsburgh, 1974; 1975.

Jackson, James, Associate Professor, Ph.D., University of Wisconsin, 1976; 1976.

Jackson, Michael, Associate Professor, Ed.D., University of Florida, 1971; 1971.

Jones, Dan R., Associate Professor, Ed.D., Indiana University, 1978; 1978.

Karmos, Ann, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1975.

Killian, Joyce, Associate Professor, Ph.D., Pennsylvania State University, 1980; 1981.

Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971; 1971.

Lacey, Jerome, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1976.

Lamb, Morris L., Associate Professor, Ed.D., University of Oklahoma, 1970; 1970.

Leming, James, Professor, Ph.D., University of Wisconsin, 1973; 1977.

Lindberg, Dormalee H., Professor, Ed.D., University of Missouri-Columbia, 1969; 1969.

Malone, Willis E., Professor, *Emeritus*, Ph.D., Ohio State University, 1950; 1939.

Matthias, Margaret, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1969.

McIntyre, John D., Associate Professor, E.D., Syracuse University, 1977; 1977.

Mees, John D., Professor, *Emeritus*, Ed.D., Indiana University, 1950; 1946.

Moore, Eryn E., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1976; 1968.

Nelson, Joann N., Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1980; 1982.

Norris, William, Associate Professor, Ed.D., Indiana University, 1973; 1977.

Paige, Donald D., Professor, Ed.D., Indiana University, 1966; 1966.

Pape, Sharon L., Assistant Professor, Ph.D., Ohio State University, 1988; 1988.

Pultorak, Edward G., Assistant Professor, Ph.D., Indiana University, 1988; 1988.

Quisenberry, James D., Associate Professor, Ph.D., Indiana University, 1972; 1971.

Quisenberry, Nancy L., Professor, Ed.D., Indiana University, 1971; 1971.

Randolph, Victor, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942; 1933.

Samford, Clarence, Professor, *Emeritus*, Ph.D., New York University, 1940; 1951.

Seiferth, Berniece B., Professor, *Emerita*, Ed.D., University of Missouri, 1955; 1955.

Shepherd, Terry R., Associate Professor, Ph.D., University of Illinois, 1971; 1971.

Shrock, Sharon A., Associate Professor, Ph.D., Indiana University, 1978; 1984.
Sloan, Fred A., Professor, Ed.D., George Peabody College for Teachers, 1959; 1968.
Smith, Lynn C., Assistant Professor, Ph.D., University of Georgia, 1984; 1984.
Solliday, Michael, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1967.
Spigle, Irving S., Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955; 1970.
Stephens, Clarence, Professor, *Emeritus*, Ed.D., Indiana University, 1955; 1952.
Wendt, Paul R., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948; 1955.
Wise, Kevin C., Assistant Professor, Ed.D., University of Georgia, 1983; 1986.

Economics

COLLEGE OF LIBERAL ARTS

Chun, Youngsub, Assistant Professor, Ph.D., University of Rochester, 1986; 1986. Game theory; microeconomic theory.
Ellis, Robert J., Jr., Associate Professor and Chair, Ph.D., University of Virginia, 1966; 1962. Labor economics.
Edelman, Milton, Professor, Ph.D., *Emeritus*, University of Illinois, 1951; 1950.
Fare, Rolf, Professor, Docent, University of Lund, Sweden, 1976; 1978. Microeconomic theory, mathematical economics.
Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1970; 1969. Labor economics, monetary theory.
Grabowski, Richard, Associate Professor, Ph.D., University of Utah, 1977; 1979. Economic development, international economics.
Grosskopf, Shawna, Associate Professor, Ph.D., Syracuse University, 1977; 1977. Public finance, labor economics.
Hickman, C. Addison, Professor, *Emeritus*, Vandever Chair of Economics, Ph.D., University of Iowa, 1942; 1960.
Kandil, Magda, Assistant Professor, Ph.D., Washington State University, 1988; 1988. Macroeconomic theory, econometrics-time series analysis.
Kim, Yoonbai, Assistant Professor, Ph.D., Stanford University, 1986; 1985. International finance and open economy macroeconomics, econometrics, macroeconomics.
Layer, Robert G., Professor, Ph.D., *Emeritus*, Harvard University, 1952; 1955.
Mitchell, Thomas M., Assistant Professor, Ph.D., Brown University, 1985; 1983. Microeconomic theory; international trade.
Myers, John G., Professor, Ph.D., Columbia University, 1961; 1977. Energy and environmental economics, macroeconomics, econometrics.
Norris, Mary, Assistant Professor, Ph.D., University of Maryland, 1985; 1985. International trade; economic development.
Primont, Daniel, Professor, Ph.D., University of California, Santa Barbara, 1970; 1978. Microeconomic theory, mathematical economics, econometrics.
Sawyer, Carl, Assistant Professor, Ph.D.,

University of Michigan, 1986; 1985. Resource economics, microeconomics theory.
Sharma, Subhash C., Assistant Professor, Ph.D., University of Kentucky, 1983; 1983. Econometrics, statistics.
Shields, Michael P., Associate Professor, Ph.D., University of Utah, 1975; 1975. Economic development; economic theory.
Takayama, Akira, Professor, Vandever Chair of Economics, Ph.D., University of Rochester, 1962; 1982. International economics, macroeconomics, mathematics, microeconomics.
Trescott, Paul B., Professor, Ph.D., Princeton University, 1954; 1976. Monetary theory, economic development.

Educational Administration and Higher Education

COLLEGE OF EDUCATION

Adams, Frank C., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1962; 1957.
Bach, Jacob O., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1951; 1951.
Bracewell, George, Professor, *Emeritus*, Ed.D., Washington University, 1952; 1931.
Brammell, Paris R., Professor, *Emeritus*, Ph.D., University of Washington, 1930; 1960.
Bryant, Royce R., Professor, *Emeritus*, Ed.D., Washington University, 1952; 1948.
Buser, Robert L., Professor, Ed.D., Indiana University, 1966; 1967.
Caldwell, Oliver J., Professor, *Emeritus*, M.S. Oberlin College, 1927; 1966.
Casebeer, Arthur L., Professor, Ed.D., Oregon State University, 1963; 1969.
Clark, Elmer J., Professor, *Emeritus*, Ph.D., University of Michigan, 1949; 1964.
Curtin, T. R., Assistant Professor, Ph.D., Northwestern University, 1988; 1987.
Davis, I. Clark, Professor, *Emeritus*, Ed.D., Indiana University, 1956; 1949.
Dennis, Lawrence J., Professor, Ph.D., Southern Illinois University at Carbondale, 1968; 1968.
Duff, Grace, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1973.
Eaton, William E., Professor and Chair, Ph.D., Washington University, 1971; 1971.
Evans, John, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1968; 1970.
Fishback, Woodson W., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1947; 1948.
Goldman, Samuel, Professor, Ph.D., University of Chicago, 1961; 1980.
Graham, Jack W., Professor, Ph.D., Purdue University, 1951; 1951.
Grinnell, John E., Professor, *Emeritus*, Ph.D., Stanford University, 1934; 1955.
Hall, James H., Associate Professor, *Emeritus*, Ed.D., George Washington University, 1950; 1952.
Hawley, John B., Professor, *Emeritus*, Ph.D., University of Michigan, 1957; 1965.

Jacobs, Robert, Professor, *Emeritus*, Ed.D., Wayne State University, 1949; 1962.

Jung, Loren B., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1969; 1965.

Jellen, Hans, Associate Professor, Ph.D., University of Virginia, 1981; 1981.

Kaiser, Dale E., Professor, *Emeritus*, Ph.D., University of Illinois, 1963; 1966.

Keene, Roland, Professor, *Emeritus*, Ed.D., Washington University, 1962; 1958.

Keim, Marybelle C., Assistant Professor, Ph.D., Michigan State University, 1972; 1986.

King, John E., Professor, *Emeritus*, Ph.D., Cornell University, 1941; 1967.

Lean, Arthur E., Professor, *Emeritus*, Ph.D., University of Michigan, 1948; 1957.

Matthias, William, Associate Professor, Ed.D., University of Illinois, 1964; 1971.

McKenzie, William R., Professor, *Emeritus*, Ed.D., University of Denver, 1952; 1964.

Merwin, Bruce W., Professor, *Emeritus*, Ph.D., University of Kansas, 1929; 1927.

Miller, Harry G., Professor, Ed.D., University of Nebraska, 1970; 1970.

Moore, Malvin E., Professor, *Emeritus*, Ed.D., George Peabody College for Teachers, 1959; 1968.

Morrill, Paul H., Professor, *Emeritus*, Ph.D., Northwestern University, 1956; 1964.

Neal, Charles D., Professor, *Emeritus*, Ed.D., Indiana University, 1948; 1948.

Pettit, Lawrence K., Professor, Ph.D., University of Wisconsin, 1965; 1986.

Sasse, Edward B., Professor, Ph.D., University of Wisconsin, 1966; 1966.

Shelton, William E., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1950; 1951.

Spees, Emil R., Associate Professor, Ph.D., Claremont Graduate School, 1969; 1969.

Stuck, Dean, Professor, Ph.D., Iowa State University, 1968; 1968.

Tolle, Donald J., Professor, *Emeritus*, Ed.D., Florida State University, 1957; 1967.

Verduin, John R., Jr., Professor, Ph.D., Michigan State University, 1962; 1967.

Warren, F. G., Professor, *Emeritus*, A.M., University of Chicago, 1928; 1913.

Wohlwend, Herbert W., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1964; 1958.

Zimmerman, Elwyn, Assistant Professor, Ph.D., Michigan State University, 1963; 1966.

Educational Psychology

COLLEGE OF EDUCATION

Altekruse, Michael K., Professor, Ed.D., Indiana University, 1967; 1967.

Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1968.

Beggs, Donald L., Professor, Ph.D., University of Iowa, 1966; 1966.

Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968; 1968.

Brown, Beverly, Associate Professor, Ph.D., University of Iowa, 1974; 1974.

Cody, John J., Professor and *Chair*, Ph.D., University of Wisconsin, 1961; 1965.

Daniels, M. Harry, Associate Professor, Ph.D., University of Iowa, 1978; 1978.

Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969; 1969.

DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959; 1959.

Dillon-Sumner, Ronna, Professor, Ph.D., University of California, Riverside, 1978; 1978.

Elmore, Patricia B., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1967.

Kelly, Francis J., Professor, Ph.D., University of Texas, 1963; 1965.

Leitner, Dennis W., Associate Professor, Ph.D., University of Maryland, 1975; 1974.

Lewis, Ernest, Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1970.

Meek, Clinton Roscoe, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1954; 1957.

Mouw, John T., Professor, Ed.D., University of South Dakota, 1968; 1968.

Pohlmann, John T., Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1971.

Prichard, Karen K., Associate Professor, Ph.D., Kent State University, 1980; 1980.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1955.

Snowman, Jack, Professor, Ph.D., Indiana University, 1975; 1975.

White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969; 1971.

Woehlke, Paula L., Associate Professor, Ph.D., Arizona State University, 1973; 1973.

Yates, J. W., Professor, Ed.D., University of Missouri-Columbia, 1951; 1964.

Electrical Engineering

COLLEGE OF ENGINEERING AND TECHNOLOGY

Botros, Nazeih M., Assistant Professor, Ph.D., University of Oklahoma, 1985; 1985. Digital hardware design and signal analysis.

Brown, David P., Professor, Ph.D., Michigan State University, 1961; 1983. Circuit and system theory, network analysis and synthesis.

Daneshdoost, Morteza, Assistant Professor, Ph.D., Drexel University, 1984; 1984. Power systems, expert systems, control.

Dhali, Shirshak K., Assistant Professor, Ph.D., Texas Tech University, 1984; 1984. Gaseous electronics, plasma processing, solid state.

Feiste, Vernold K., Associate Professor and *Acting Chair*, Ph.D., University of Missouri-Columbia, 1966; 1966. Power systems analysis, energy conversion.

Galanos, Glafkos D., Professor and *Chairman*, Ph.D., University of Manchester, England, 1970; 1987. Power systems, HVDC transmission, power electronics systems.

Goben, Charles A., Professor, Ph.D., Iowa State University, 1965; 1980. Solid state elec-

tronics and materials, surface electromagnetic waves.

Gupta, Lalit, Assistant Professor, Ph.D., Southern Methodist University, 1986; 1986. Computer vision, pattern recognition, digital signal processing, digital system design.

Han, Jia-Yuan, Assistant Professor, Ph.D., Ohio State University, 1985; 1986. Robotics, multiprocessor system design (software and hardware), computer architecture, computer networks, control systems, CAD/CAM.

Hu, Chia-Lun John, Professor, Ph.D., University of Colorado, 1966; 1981. Microwave theory and measurements, nonlinear waves, electro-optics, bioengineering.

Manzoul, Mahmoud A., Assistant Professor, Ph.D., West Virginia University, 1985; 1985. Computer systems and applications, computer architecture, special purpose computer, parallel and array processing.

Pourboghraat, Farzad, Assistant Professor, Ph.D., University of Iowa, 1984; 1984. Nonlinear, robust and adaptive control robotics.

Rawlings, Charles A., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1964. Biomedical engineering, instrumentation.

Sayeh, Mohammad R., Assistant Professor, Ph.D., Oklahoma State University, 1985; 1986. Random signal analysis, electro-optics, digital signal processing, microcomputer system design.

Schoen, Alan, Professor, Ph.D., University of Illinois, 1958; 1973. Computational geometry, optimization, tiling theory, theory of polyhedra, elementary number theory, minimal surfaces.

Smith, James G., Professor, Ph.D., University of Missouri-Rolla, 1967; 1966. Electromagnetics, microwaves.

Thomopoulos, Stelios C. A., Assistant Professor, Ph.D., State University of New York at Buffalo, 1983; 1983. Computer networks, detection, artificial vision, robotics.

Viswanathan, Ramanarayanan, Assistant Professor, Ph.D., Southern Methodist University, 1983; 1983. Detection and estimation, communication theory, signal processing.

English

COLLEGE OF LIBERAL ARTS

Appleby, Bruce C., Professor, Ph.D., University of Iowa, 1967; 1967.

Benziger, James G., Professor, *Emeritus*, Ph.D., Princeton University, 1941; 1950.

Boyd, Timothy W., Assistant Professor, Ph.D., Princeton University, 1987; 1987.

Brown, William J., Associate Professor, Ph.D., Duke University, 1966; 1966.

Cohn, Alan Martin, Professor, Morris Library, M.S., University of Illinois, 1955; 1955.

Coleman, E. C., Professor, *Emeritus*, Ph.D., University of Illinois 1936; 1946.

Collins, K. K., Associate Professor, Ph.D., Vanderbilt University, 1976; 1976.

Donow, Herbert S., Professor, Ph.D., University of Iowa, 1966; 1966.

Elfenbein, Anna Shannon, Associate Professor, Ph.D., University of Nebraska, 1979; 1988.

Friend, Jewell, Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1967.

Goodin, George V., Associate Professor, Ph.D., University of Illinois, 1962; 1966.

Griffin, Robert P., Associate Professor, *Emeritus*, Ph.D., University of Connecticut, 1965; 1965.

Hatton, Thomas J., Associate Professor, Ph.D., University of Nebraska, 1966; 1965.

Hillegas, Mark, Professor, *Emeritus*, Ph.D., Columbia University, 1957; 1965.

Howell, John M., Professor, Ph.D., Tulane University, 1963; 1963.

Hurley, Paul J., Professor, Ph.D., Duke University, 1962; 1965.

Jones, Rodney G., Associate Professor, M.F.A., University of North Carolina at Greensboro, 1973; 1984.

Kiefer, Daniel R., Assistant Professor, Ph.D., Yale University, 1985; 1983.

Krappe, Edith S., Associate Professor, *Emerita*, Ph.D., University of Pennsylvania, 1953; 1929.

Kvernes, David M., Assistant Professor and *Director* of General Education in English, Ph.D., University of Minnesota, 1967; 1968.

Lamb, Mary A., Associate Professor, Ph.D., Columbia University, 1975; 1975.

Lawson, Richard A., Associate Professor, Ph.D., Tulane University, 1966; 1963.

Light, James F., Professor, *Emeritus*, Ph.D., Syracuse University, 1953; 1979.

Little, Judy R., Professor, Ph.D., University of Nebraska, 1969; 1969.

McClure, Lisa J., Assistant Professor, D.A., University of Michigan, 1988; 1988.

Moss, Sidney P., Professor, *Emeritus*, Ph.D., University of Illinois, 1954; 1964.

Partlow, Robert B., Jr., Professor, *Emeritus*, Ph.D., Harvard University, 1955; 1957.

Person, Leland S., Jr., Associate Professor, Ph.D., University of Indiana, 1977; 1987.

Peterson, Richard F., Professor and *Chair*, Ph.D., Kent State University, 1969; 1969.

Piper, Henry Dan, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950; 1962.

Rainbow, R.S., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1959; 1949.

Rudnick, Hans H., Professor, Ph.D., University of Freiburg, Germany, 1966; 1966.

Russo, James Richard, Associate Professor, Ph.D., University of Arizona, 1979; 1986.

Schonhorn, Manuel R., Professor, Ph.D., University of Pennsylvania, 1963; 1968.

Simeone, William E., Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950; 1950.

Smith, Gary, Assistant Professor, Ph.D., Stanford University 1981; 1981.

Stibitz, E. Earle, Professor, *Emeritus*, Ph.D., University of Michigan, 1951; 1952.

Vieth, David Muench, Professor, Ph.D., Yale University, 1953; 1965.

Webb, Howard W., Jr., Professor, Ph.D., University of Iowa, 1953; 1956.

Zimra, Clarisse, Assistant Professor, Ph.D., University of Washington, 1974; 1988.

Finance

COLLEGE OF BUSINESS AND ADMINISTRATION

Davids, Lewis E., Professor, *Emeritus*, Ph.D., New York University, 1949; 1978.

Elsaid, Hussein H., Professor, Ph.D., University of Illinois, 1968; 1967. International finance and financial management.

Jose, Manuel L., Assistant Professor, Ph.D., Virginia Polytechnic Institute, 1983; 1983. Corporate finance and financial institutions.

Mathur, Iqbal, Professor and *Chair*, Ph.D., University of Cincinnati, 1974; 1977. Financial management and investments.

Rangan, Nanda, Assistant Professor, Ph.D., Texas A & M University, 1986; 1986. Financial institutions.

Rosenstein, Stuart N., Ph.D., University of Colorado, 1987; 1987. Investments and corporate finance.

Schwarz, Thomas V., Assistant Professor, D.B.A., Florida State University, 1984; 1988. Investments and speculative markets.

Tyler, R. Stanley, Associate Professor, J.D., University of Illinois, 1952; 1970. Business law, legal environment of business and real estate.

Vaughn, Donald E., Professor, Ph.D., University of Texas, 1961; 1970. Budgeting and investments.

Waters, Gola E., Professor, J.D., University of Iowa, 1957; Ph.D., Southern Illinois University at Carbondale, 1970; 1965. Business law and labor law.

Foreign Languages and Literatures

COLLEGE OF LIBERAL ARTS

Betz, Frederick, Professor, Ph.D., Indiana University, 1973; 1978.

Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944; 1958.

Canfield, D. Lincoln, *Emeritus*, Ph.D., Columbia University, 1934; 1970.

Cohen-Scali, Assistant Professor, Ph.D., Florida State University, 1988; 1988.

Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936; 1930.

Gobert, David L., Professor, Ph.D., University of Iowa, 1960; 1965.

Hartman, Steven Lee, Associate Professor, Ph.D., University of Wisconsin, 1971; 1971.

Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943; 1948.

Keller, Thomas, Associate Professor, Ph.D., University of Colorado, 1975; 1975.

Kilker, James, Professor, *Emeritus*, Ph.D., University of Missouri-Columbia, 1961; 1967.

Kim, Alan, Assistant Professor, Ph.D., University of Southern California, 1985; 1988.

Liedloff, Helmut, Professor, Ph.D., Phillips University, Germany, 1956; 1959.

McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968; 1972.

Meinhardt, Warren, Associate Professor, Ph.D., University of California, Berkeley, 1965; 1969.

O'Brien, Joan, Professor, Ph.D., Fordham University, 1961; 1969.

Orechwa, Olga, Associate Professor, Ph.D., Universitas Ucrainiensis Libera, Munich, Germany, 1967; 1970.

Speck, Charles, Assistant Professor, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963; 1970.

Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960; 1972.

Ulner, Arnold R., Assistant Professor, Ph.D., University of Missouri, 1972; 1970.

Williams, Frederick, Assistant Professor, Ph.D., Cornell, 1976; 1977.

Winters, Margaret, Associate Professor and *Chair*, Ph.D., University of Pennsylvania, 1975; 1977.

Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950; 1965.

Forestry

SCHOOL OF AGRICULTURE

Aubertin, Gerald M., Associate Professor, Ph.D., Pennsylvania State University, 1964; 1976.

Budelsky, Carl A., Assistant Professor, Ph.D., University of Arizona 1969; 1967.

Burde, John H. II, Associate Professor, Ph.D., University of Arizona, 1974; 1974.

Chilman, Kenneth C., Associate Professor, Ph.D., University of Michigan, 1972; 1973.

Fralish, James S., Associate Professor, Ph.D., University of Wisconsin, 1970; 1969.

Gaffney, Gerald R., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1969.

Kung, Fan H., Professor, Ph.D., Michigan State University, 1968; 1970.

McCurdy, Dwight R., Professor and *Chair*, Ph.D., Ohio State University, 1964; 1965.

Myers, Charles C., Associate Professor, Ph.D., Purdue University, 1966; 1973.

Roth, Paul L., Professor, Ph.D., Kansas State University, 1968; 1967.

Geography

COLLEGE OF LIBERAL ARTS

Arey, David G., Associate Professor, Ph.D., Clark University, 1969; 1971.

Baumann, Duane D., Professor, Ph.D., Clark University, 1968; 1967.

Beazley, Ronald I., Professor, *Emeritus*, Ph.D., Purdue University, 1954; 1959.

Christensen, David E., Professor, *Emeritus*, Ph.D., University of Chicago, 1956; 1961.

Dziegielewski, Benedykt, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1985.

Horsley, A. Doyne, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1968.

Irwin, Daniel R., Associate Professor, Ph.D., Syracuse University, 1972; 1959.

Jones, David L., Professor, Ph.D., Pennsylvania State University, 1960; 1965.

Krause, Annemarie, Associate Professor, *Emerita*, Ph.D., University of Chicago, 1952; 1930.

Lant, Christopher L., Assistant Professor, Ph.D., University of Iowa, 1988; 1988.

Lieber, Stanley R., Professor, Ph.D., University of Iowa, 1974; 1975.

Sharpe, David M., Professor and *Chair*, Ph.D., Southern Illinois University at Carbondale, 1968; 1966.

Geology

COLLEGE OF SCIENCE

Crelling, John C., Professor, Ph.D., Pennsylvania State University, 1973; 1977. Coal petrology, coal geology, coal utilization.

Dutcher, Russell R., Professor and *Dean* of the College of Science, Ph.D., Pennsylvania State University, 1960; 1970. Coal geology, field geology, coal petrology.

Esling, Steven P., Assistant Professor, Ph.D., University of Iowa, 1984; 1982. Quaternary stratigraphy; hydrogeology; geomathematics.

Fifarek, Richard H., Assistant Professor, Ph.D., Oregon State University, 1985; 1985. Economic geology, stable isotope geochemistry; fluid inclusion studies.

Frank, Charles, O., Assistant Professor, Ph.D., Syracuse University, 1973; 1970. Metamorphic petrology, igneous petrology.

Fraunfelder, George H., Professor, Ph.D., University of Missouri-Columbia, 1964; 1965. Stratigraphy, invertebrate paleontology, micropaleontology, field geology.

Harris, Stanley, E., Jr., Professor, *Emeritus*, Ph.D., University of Iowa, 1947; 1949. Environmental geology, stratigraphy, Pleistocene geology.

Kochel, R. Craig, Associate Professor, Ph.D., University of Texas, 1980; 1984. Fluvial/coastal geomorphology; environmental/engineering geology; planetary geology; paleohydrology.

Kruege, Michael A., Assistant Professor, Ph.D., University of California, Berkeley, 1985; 1987. Molecular organic geochemistry, petroleum geology.

Malinconico, Lawrence L., Jr., Associate Professor, Ph.D., Dartmouth College, 1982; 1982. Applied geophysics, volcanology, tectonics, remote sensing.

Marzolf, John E., Associate Professor, Ph.D., The University of California, Los Angeles, 1970; 1982. Clastic sedimentology, clastic petrology.

Ritter, Dale F., Professor, Ph.D., Princeton University, 1964; 1972. Geomorphology, fluvial geomorphology; Pleistocene geology.

Robinson, Paul D., Associate Geologist, M.S., Southern Illinois University at Carbondale, 1963; 1967. X-ray crystallography, electron microscopy/image analysis.

Sexton, John L., Associate Professor, Ph.D., Indiana University, 1974; 1985. Geophysics, seismic reflection and refraction.

Staub, James R., Assistant Professor, Ph.D., University of South Carolina, 1985; 1988. Coal geology, basin analysis, geological engineering.

Utgaard, John E., Professor and *Chair*, Ph.D., Indiana University, 1963; 1965. Invertebrate paleontology, paleoecology; environments of deposition, carbonate petrology.

Zimmerman, Jay, Jr., Professor, Ph.D., Princeton University, 1968; 1973. Structural geology, rock deformation, alpine-type ultramafics.

Health Education

COLLEGE OF EDUCATION

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960; 1957.

Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949; 1955.

Bridges, A. Frank, Professor, *Emeritus*, D.H.S., Indiana University, 1952; 1947.

Casey, Ralph, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1956; 1957.

Denny, Florence E., Associate Professor, *Emerita*, M.A., Columbia University, 1935; 1929.

Drolet, Judy C., Associate Professor, Ph.D., University of Oregon, 1982; 1983. Personal health, human sexuality, sex education, drug education, gerontology, health education and computers, wellness, nutrition, death education.

Grisson, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952; 1956.

LeFevre, John R., Professor, Ed.D., Teachers College, Columbia University, 1950; 1955. Sex education, school health education.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940; 1944.

Richardson, Charles E., Professor, Ed.D., University of California, Los Angeles, 1959; 1954. Prematurity, sexuality, health care planning, patient education.

Ritzel, Dale, Professor and *Bus Chair*, Ph.D., Southern Illinois University at Carbondale, 1970; 1966. Safety education injury control, research design, driving simulation, community safety.

Russell, Robert D., Professor, Ed.D., Stanford University, 1954; 1965. Ecological perspectives, education about mood modifying substances and sexuality, death education, innovative approaches in health education.

Sarvela, Paul D., Assistant Professor, Ph.D., University of Michigan, 1984; 1986. Program evaluation, community health, computer assisted instruction.

Sliepcevich, Elena M., Professor, D.P.E., Springfield College, 1955; 1973. Curriculum theory, professional preparation, bioethics, futurism.

Zunich, Eileen M., Assistant Professor, Ph.D., Southern Illinois University at Carbondale,

ale, 1970; 1967. Teacher education and preparation, school and college health program development, content area instruction.

History

COLLEGE OF LIBERAL ARTS

Allen, Howard W., Professor, Ph.D., University of Washington, 1959; 1962. United States: 20th Century; social science history.

Ammon, Harry, Professor, *Emeritus*, Ph.D., University of Virginia, 1948; 1950.

Barton, H. Arnold, Professor, Ph.D., Princeton University, 1962; 1970. European: 18th Century; France; Scandinavia; American immigration.

Batinski, Michael C., Associate Professor, Ph.D., Northwestern University, 1969; 1968. United States: colonial; early republic; social science history.

Carrott, M. Browning, Associate Professor, Ph.D., Northwestern University, 1966; 1967. United States: constitutional and legal.

Conrad, David E., Professor, Ph.D., University of Oklahoma, 1962; 1967. United States: recent; American west; historic preservation.

Detwiler, Donald S., Professor, Dr. Phil., Goettingen University, Germany, 1961; 1967. European: Germany and Spain; contemporary historiography.

Dotson, John E., Assistant Professor and *Graduate Adviser*, Ph.D., Johns Hopkins University, 1969; 1970. European: Medieval and Renaissance, Italy; Maritime.

Fladeland, Betty L., Professor, *Emerita*, Ph.D., University of Michigan, 1952; 1962.

Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945; 1957.

Gold, Robert L., Professor, *Emeritus*, Ph.D., University of Iowa, 1964; 1965.

Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1959.

Morgan, Marjorie L., Assistant Professor, Ph.D., Tulane University, 1988; 1988. European: England; social and cultural.

Murphy, James B., Associate Professor, Ph.D., Louisiana State University, 1968; 1968. United States: the South; Appalachia.

O'Day, Edward J., Assistant Professor, A.M., Indiana University, 1956; 1962. European: diplomatic; central Europe; Ireland; American immigration.

Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962; 1961. European: Medieval; Social.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964. United States: Civil War and Reconstruction; Illinois.

Vyverberg, Henry S., Professor, *Emeritus*, Ph.D., Harvard University, 1950; 1968.

Werlich, David P., Professor and *Chair*, Ph.D., University of Minnesota, 1968; 1968. Latin American: Andean region.

Wilson, David L., Associate Professor, Ph.D., University of Tennessee, 1974; 1974.; United States: diplomatic.

Wright, John I., Associate Professor, *Emeritus*, A.M., University of Chicago, 1933; 1925.

Wu, Tien-Wei, Professor, Ph.D., University of Maryland, 1965; 1972. Asian: East Asia; China.

Journalism

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Akhavan-Majid Roya, Assistant Professor, University of Minnesota, 1988; 1988. Telecommunications policy, international communication.

Atwood, L. Erwin, Professor, Ph.D., University of Iowa, 1965; 1967. Political communication, international communication.

Brown, George C., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1963; 1956.

Elliott, William R., Associate Professor, Ph.D., University of Wisconsin, 1972; 1987. Political communications, science communication.

Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948; 1955.

Jaehnig, Walter B., Associate Professor, Ph.D., University of Essex, England, 1974; 1987. Media ethics, media theory and philosophy, political violence reporting.

McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956; 1955.

Ramaprasad, Jyotika, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1986. International communication, mass media and social reality, international advertising.

Rice, W. Manion, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1967; 1959.

Spellman, Robert, Assistant Professor, J.D., Cleveland State University, 1977; 1985. Media law, opinion privilege, media ethics.

Stonecipher, Harry W., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1971; 1969.

Library Affairs

Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1978; 1956.

Bedient, Douglas, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1971.

Black, George W., Jr., Professor, M.S.L.S., Columbia University, 1966; 1968.

Boydston, JoAnn, Distinguished Professor, Ph.D., Columbia University, 1950; 1955.

Brown, F. Dale, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1978; 1970.

Cohn, Alan M., Professor, M.S., University of Illinois, 1955; 1955.

Cook, Margaret Kathleen, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977.

Cox, Shelley M., Assistant Professor, M.A.L.S., University of Chicago, 1973; 1973.

Harwood, Judith A., Assistant Professor,

Ph.D., Southern Illinois University at Carbondale, 1981; 1969.

Hostetler, Jerry, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1968.

Matthews, Elizabeth W., Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1964.

Person, Roland C., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1970.

Peterson, Kenneth G., Professor and *Dean*, Ph.D., University of California, Berkeley, 1968; 1976.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964.

Stubbs, Walter R., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1968.

Linguistics

COLLEGE OF LIBERAL ARTS

Angelis, Paul, Associate Professor and *Chair*, Ph.D., Georgetown University, 1968; 1981. Language testing, language teaching methodology, language acquisition.

Carrell, Patricia L., Professor, Ph.D., University of Texas at Austin, 1966; 1968. Psycholinguistics, first and second language acquisition, pragmatics, theoretical and applied syntax, semantics.

Gilbert, Glenn G., Professor and *Chair*, Ph.D., Harvard University, 1963; 1970. Pidgin and creole languages, German, sociolinguistics, historical linguistics, dialectology, history of linguistics.

Nathan, Geoffrey S., Associate Professor, Ph.D., University of Hawaii, 1978; 1980. Phonology, phonetics, cognitive grammar, syntax.

Nguyen, Dinh-Hoa, Professor, Ph.D., New York University, 1956; 1969. EFL/ESL, linguistics, lexicography, language planning, Vietnamese, Chinese, French.

Parish, Charles, Professor, Ph.D., University of New Mexico, 1959; 1965. EFL/ESL, pedagogy and methodology, materials-writing, innovative methods, syllabus design.

Perkins, Kyle, Associate Professor, Ph.D., University of Michigan, 1976; 1976. Language testing, language teaching methodology, discourse theory and processing, the composing process, reading comprehension.

Pharis, Keith, Assistant Professor, Ph.D., University of Illinois, 1987; 1965. Composition theory, EFL/ESL methodology, research methods, second language acquisition.

Redden, James E., Professor, Ph.D., Indiana University, 1965; 1967. EFL/ESL, field linguistics, African languages, Amerindian languages, phonetics.

Winer, Lise, Assistant Professor, Ph.D., University of the West Indies, 1982; 1986. EFL/ESL methodology, composition, reading, creole studies, sociolinguistics.

Winters, Margaret E., Associate Professor, Ph.D., University of Pennsylvania, 1975;

1977. Historical linguistics, Romance comparative linguistics, syntax/semantics, cognitive grammar.

Management

COLLEGE OF BUSINESS AND ADMINISTRATION

Bateman, David N., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1965. Management and communication systems.

Bedwell, R. Ralph, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1969; 1954.

Fohr, John M., Professor, *Emeritus*, Ed.D., Michigan State University, 1959; 1962.

Gutteridge, Thomas G., Professor and *Dean*, Ph.D., Purdue University, 1971; 1983. Labor relations, personnel administration, and career development.

Larson, Lars L., Associate Professor, Ph.D., University of Illinois, 1971; 1971. Organizational behavior and business policy.

Martin, Thomas N., Associate Professor, Ph.D., University of Iowa, 1977; 1977. Management theory, organizational behavior, and research methods.

Ramaprasad, Arkalud, Associate Professor, Ph.D., University of Pittsburgh, 1980; 1980. Strategic management, management information systems.

Schermerhorn, John R., Professor, Ph.D., Northwestern University, 1974; 1979. Organizational theory and behavior, organizational change, and interorganizational relations.

Scott, John W., Professor, *Emeritus*, Ph.D., University of Chicago, 1930; 1947.

Sekaran, Uma, Professor, Ph.D., U.C.L.A., 1977; 1977. Organization behavior, cross-cultural perspectives in organization behavior, and research methods.

Tadisina, Suresh K., Assistant Professor, Ph.D., University of Cincinnati, 1987; 1986. Operations management and management sciences.

Troutt, Marvin D., Associate Professor, Ph.D., University of Illinois at Chicago, 1975; 1976. Mathematical programming, modeling of systems, optimization theory.

Vicars, William M., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1969; 1961. Personnel, management consulting.

White, Gregory P., Associate Professor, Ph.D., University of Cincinnati, 1976; 1978. Production management and management sciences.

Wilson, Harold K., Associate Professor, D.B.A., University of Colorado, 1972; 1972. Business policy, management and small business management.

Marketing

COLLEGE OF BUSINESS AND ADMINISTRATION

Adams, Kendall A., Professor, Ph.D., Michi-

gan State University, 1962; 1965. Marketing management and industrial marketing.

Andersen, R. Clifton, Professor and *Chair*, D.B.A., Indiana University, 1960; 1967. Marketing management and marketing channels.

Anderson, Carol H., Associate Professor, Ph.D., Texas A & M University, 1980; 1979. Retail management, marketing research, and marketing management.

Bruner, Gordon C. II, Assistant Professor, Ph.D., North Texas State University, 1983; 1984. Consumer decision making and promotion management.

Dommermuth, William P., Professor, *Emeritus*, Ph.D., Northwestern University, 1964; 1968. Promotion, marketing research, and consumer behavior.

Fraedrich, John P., Assistant Professor, Ph.D., Texas A&M University, 1988; 1987. Ethics, international marketing, and industrial sales.

Hensel, Paul J., Associate Professor, Ph.D., University of Houston, 1981; 1986. Marketing theory, consumer behavior, and advertising.

Hindersman, Charles H., Professor, D.B.A., Indiana University, 1959; 1960. Marketing management, business and society, and sales management.

Moore, James R., Assistant Professor, Ph.D., University of Illinois, 1972; 1969. Marketing management, sales management, and marketing channels.

Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966; 1964. Social marketing, management, and sales management.

Summey, John H., Associate Professor, Ph.D., Arizona State University, 1974; 1978. Marketing management, marketing research, product strategy.

Mathematics

COLLEGE OF SCIENCE

Aldred, Robert E. L., Assistant Professor, Ph.D., University of Melbourne (Australia), 1987; 1988. Graph theory.

Allison, Dean E., Assistant Professor, Ph.D., University of Missouri-Columbia, 1985; 1985. Differential geometry, geometry, and topology.

Burton, Theodore A., Professor, Ph.D., Washington State University, 1964; 1966. Differential and integral equations.

Carlson, Dean A., Associate Professor, Ph.D., University of Delaware, 1983; 1985. Optimization, calculus of variations, and differential equations.

Crenshaw, James A., Associate Professor, Ph.D., University of Illinois, 1967; 1967. Analysis, operations research.

Danhof, Kenneth, Professor, Ph.D., Purdue University, 1969; 1969. Logic, combinatorics.

Dharmadhikari, Sudhakar, Professor, Ph.D., University of California, Berkeley, 1962; 1978. Statistics, probability.

Earnest, Andrew, Associate Professor, Ph.D., Ohio State University, 1975; 1981. Algebra, algebraic number theory.

Feinsilver, Philip, Associate Professor, Ph.D., New York University, 1975; 1978. Probability, representation theory.

Fitzgerald, Robert W., Associate Professor, Ph.D., University of California-Los Angeles, 1980; 1982. Algebra.

Foland, Neal E., Professor, Ph.D., University of Missouri, 1961; 1965. Topology, topological dynamics.

Gates, Leslie D., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1952; 1961.

Greene, John, Assistant Professor, Ph.D., University of Minnesota, 1984; 1984. Combinatorics and algebra.

Gregory, John, Professor, Ph.D., University of California, Los Angeles, 1970; 1972. Numerical analysis, optimization.

Grimmer, Ronald C., Professor, Ph.D., University of Iowa, 1967; 1967. Integral and differential equations.

Hooker, John W., Associate Professor, Ph.D., University of Oklahoma, 1967; 1967. Ordinary differential equations.

Hunsaker, Worthen N., Associate Professor, Ph.D., Washington State University, 1966; 1969. Topology.

Jeyaratnam, Sakthivel, Associate Professor, Ph.D., Colorado State University, 1978; 1981. Mathematics and statistics.

Kammler, David, Professor, Ph.D., University of Michigan, 1971; 1971. Numerical analysis.

Kirk, Ronald B., Professor, Ph.D., California Institute of Technology, 1968; 1968. Analysis, probability.

Koch, Charles, Assistant Professor, Ph.D., University of Illinois, 1961; 1966. Summability theory.

Kuipers, Lauwerens, Professor, *Emeritus*, Ph.D., Vrije Universiteit (Amsterdam), 1947; 1966.

Langenhop, Carl E., Professor, *Emeritus*, Ph.D., Iowa State University, 1948; 1961.

Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947; 1950.

Maxwell, Charles, Professor, Ph.D., University of Illinois, 1955; 1963. Algebraic topology.

McDaniel, Wilbur C., Professor *Emeritus*, Ph.D., University of Wisconsin, 1939; 1939.

Mohammed, Salah E. A., Associate Professor, Ph.D., University of Warwick, England, 1976; 1984. Global analysis, qualitative theory of functional differential equations (on manifolds), theory of stochastic ordinary and functional differential equations.

Moore, Robert A., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1961; 1965.

Neuman, Edward, Associate Professor, Ph.D., University of Wroclaw, 1972; 1984. Numerical analysis, approximation theory, and spline functions.

Olmsted, John M. H., Professor, *Emeritus*, Ph.D., Princeton University, 1940; 1960.

Paine, Thomas B., Assistant Professor, Ph.D., University of Oregon, 1966; 1966. Statistics, probability.

Panchapakesan, S., Professor, Ph.D., Purdue University, 1969; 1970. Statistics.

Parker, George D., Associate Professor,

Ph.D., University of California, San Diego, 1971; 1972. Differential geometry.

Patula, William T., Professor, Ph.D., Carnegie-Mellon University, 1971; 1972. Ordinary differential equations, difference equations.

Pedersen, Franklin D., Associate Professor, Ph.D., Tulane University, 1967; 1965. Algebra-lattice ordered groups.

Pedersen, Katherine, Associate Professor, Ph.D., Tulane University, 1969; 1965. Mathematics education, topology.

Pericak-Spector, Kathleen A., Associate Professor, Ph.D., Carnegie-Mellon University, 1980; 1981. Partial differential equations, ordinary differential equations, continuum mechanics, and fluid dynamics.

Redmond, Donald, Associate Professor, Ph.D., University of Illinois, 1976; 1979. Number theory.

Skalsky, Michael, Professor, *Emeritus*, D.Nat.Sc., University of Gottingen, 1949; 1957.

Snyder, Herbert H., Professor, Ph.D., Lehigh University, 1965; Ph.D., University of South Africa, 1971; 1966. Applied mathematics.

Spector, Scott J., Associate Professor, Ph.D., Carnegie-Mellon University, 1978; 1981. Partial differential equations.

Wallis, Walter D., Professor, Ph.D., University of Sydney, 1968; 1985. Combinatorics, graph theory, programming languages, and cryptography.

Willis, Daniel G., Assistant Professor, Ph.D., University of Iowa, 1986; 1986. Numerical analysis and applied mathematics.

Wilson, Joseph C., Professor, *Emeritus*, Ph.D., Louisiana State University, 1954; 1957.

Wright, Mary H., Associate Professor, Ph.D., McGill University, Montreal, Quebec, 1977; 1980. Calculus, real and complex analysis, finite mathematics, topology, and algebra.

Yucas, Joseph, Associate Professor, Ph.D., Pennsylvania State University, 1978; 1980. Algebra; number theory; quadratic forms.

Zeman, Marvin, Associate Professor, Ph.D., New York University, 1974; 1979. Partial differential equations.

Mechanical Engineering and Energy Processes

COLLEGE OF ENGINEERING AND TECHNOLOGY

Agrawal, Om, Assistant Professor, Ph.D., University of Illinois-Chicago, 1984; 1985. Computer-aided analysis and design of mechanical systems.

Chen, Juh W., Professor and *ius* Dean; Ph.D., University of Illinois, 1959; 1965. Coal conversion processes, supercritical extraction.

Don, Jarlen, Assistant Professor, Ph.D., Ohio State University, 1982; 1985. Material science, physical metallurgy, x-ray and electron diffraction.

Helmer, Wayne A., Associate Professor, Ph.D., Purdue University, 1974; 1974. Heat transfer in two-phase flow, solar drying, heat storage.

Hesketh, Howard E., Professor, Ph.D., Pennsylvania State University, 1968; 1968. Air pollution control, atomization, sorption processes, fluidization engineering, control of sulfur dioxide and particulates, evaluation and control of odors.

Hippo, Edwin J., Associate Professor, Ph.D., Pennsylvania State University, 1977; 1984. Coal conversion and materials.

Jefferson, Thomas B., Professor, Ph.D., Purdue University, 1955; 1969. Thermodynamics, heat transfer.

Kent, Albert C., Professor and *Chair*, Ph.D., Kansas State University, 1968; 1966. Heat transfer, thermal environmental control, coal fines utilization, solar application.

Lalvani, Shashi, Assistant Professor, Ph.D., University of Connecticut, 1982; 1982. Electrochemical processes, chemical kinetics.

Muchmore, Charles B., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1966. Biological, physical and chemical aspects of water quality control, mass transfer operations, desulfurization of coal, coal processing.

O'Brien, William S., Assistant Professor, Ph.D., West Virginia University, 1972; 1973. Acid mine waste treatment, coal conversion processes, coal desulfurization and pyrolysis.

Orthwein, William, Professor, Ph.D., University of Michigan, 1959; 1965. Machine design, vibrations, theoretical and experimental stress analysis.

Rajan, Suryanarayaniah, Associate Professor, Ph.D., University of Illinois, 1970; 1977. Energy utilization, mixed fuels, fluidized-bed combustion.

Swisher, James H., Professor, Ph.D., Carnegie-Mellon, 1963; 1983. Metallurgy and materials science.

Tempelmeyer, Kenneth E., Professor, Ph.D., University of Tennessee, 1969; 1979. Energy conversion, heat and mass transfer, magnetic hydrodynamics.

Wapner, Philip G., Associate Professor, Ph.D., University of Pennsylvania, 1970; 1983. Carbon-based materials, coal gas cleaning.

Wittmer, Dale E., Associate Professor, Ph.D., University of Illinois, 1980; 1986. Ceramics.

Microbiology

COLLEGE OF SCIENCE

Borgia, Peter, Associate Professor, Ph.D., (Springfield), University of Illinois, 1973; 1976.

Brewer, Gregory J., Associate Professor, Ph.D., (Springfield), University of California, San Diego, 1972; 1980.

Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968; 1972.

Christianson, Thomas, Assistant Professor, Ph.D., University of Chicago, 1983; 1987.

Clark, David P., Associate Professor, Ph.D., University of Bristol, 1977; 1980.

Cooper, Morris D., Professor, Ph.D.,

(Springfield), University of Georgia, 1971; 1973.

Fix, Douglas F., Assistant Professor, Ph.D., Indiana University, 1983; 1987.

Jackson, Robert W., Professor, Ph.D., (Springfield), Purdue University, 1963; 1974.

Madigan, Michael T., Associate Professor, Ph.D., University of Wisconsin, 1976; 1979.

Maroun, Leonard, Associate Professor, Ph.D., (Springfield), Catholic University of America, 1970; 1972.

Martinko, John M., Associate Professor, Ph.D., SUNY (Buffalo), 1978; 1981.

McIntyre, John A., Associate Professor, Ph.D., (Springfield), Wake Forest University, 1971; 1982.

Moticka, Edward, Associate Professor, Ph.D., (Springfield), University of Illinois, 1970; 1978.

Myers, Walter L., Professor, Ph.D., (Springfield), University of Wisconsin, 1962; 1973.

Parker, Jack, Professor, Ph.D., Purdue University, 1973; 1977.

Rouhandeh, Hassan, Professor, Ph.D., Kansas State University, 1959; 1967.

Rowan, Dighton F., Professor, *Emeritus*, Ph.D., Stanford University, 1954; 1973.

Shechmeister, Isaac L., Professor, *Emeritus*, Ph.D., University of California, Berkeley, 1949; 1957.

Tewari, Ram P., Professor, Ph.D., (Springfield), Ohio State University, 1954; 1973.

Watabe, Kounosuke, Assistant Professor, Ph.D., Kyoto University, Japan, 1981; 1985.

Mining Engineering

Caudle, Rodney D., Associate Professor, M.S., University of Illinois, 1952; 1981. Mining engineering, mine environmental control; rock mechanics, rock fragmentation.

Chugh, Yoginder P., Professor and *Chair*, Ph.D., The Pennsylvania State University, 1971; 1977. Rock mechanics and strata control, production engineering in coal mines, mine subsidence.

Sevim, Hasan, Associate Professor, D.E.S., Columbia University, 1984; 1984. Mineral economics and operations research, materials handling, experimental design.

Sinha, Atmesh K., Professor, Ph.D., University of Sheffield, England, 1963; 1975. Coal processing, mine electrical engineering, mine health and safety.

Molecular Science

DEPARTMENTAL AFFILIATION OF INTERDISCIPLINARY PROGRAM FACULTY

Ali, Naushad, Assistant Professor, Ph.D., (Physics).

Bausch, Mark J., Assistant Professor, Ph.D., (Chemistry and Biochemistry).

Bolen, D. Wayne, Professor, Ph.D., (Chemistry and Biochemistry).

Burton, Theodore A., Professor, Ph.D., (Mathematics).

Chavez, Daniel J., Associate Professor, Ph.D., (Anatomy).

Chen, Juh Wah, Professor and *us* Dean, Ph.D., (Mechanical Engineering and Energy Processes).

Coulson, Richard L., Professor, Ph.D., (Physiology).

Cutnell, John D., Professor, Ph.D., (Physics).

Dhali, Shirshak, Assistant Professor, Ph.D., (Electrical Engineering).

Englert, Duwayne C., Professor, Ph.D., (Zoology).

Evers, James L., Associate Professor, Ph.D., (Civil Engineering and Mechanics).

Goben, C., Professor, (Electrical Engineering).

Gregory, John, Professor, Ph.D., (Mathematics).

Gruber, Bruno J., Professor, Ph.D., (Physics).

Hadler, Herbert I., Professor, Ph.D., (Chemistry and Biochemistry).

Hart, Charles F., Assistant Professor, Ph.D., (Physics).

Henneberger, Walter C., Professor, Ph.D., (Physics).

Hinckley, Conrad C., Professor, Ph.D., (Chemistry and Biochemistry).

Hu, Chia L. J., Professor, Ph.D., (Electrical Engineering).

Hunter, William S., Associate Professor, Ph.D., (Physiology).

Johnson, Kenneth W., Associate Professor, Ph.D., (Physics).

Kammler, David W., Professor, Ph.D., (Mathematics).

Kent, Albert C., Professor, Ph.D., (Mechanical Engineering and Energy Processes).

Koster, David F., Professor, Ph.D., (Chemistry and Biochemistry).

Lewis-Bevan, Wyn, Assistant Professor, Ph.D., (Chemistry and Biochemistry).

Malhotra, Vivak, Assistant Professor, Ph.D., (Physics).

Malik, F. Bary, Professor, Ph.D., (Physics).

Masden, Joseph, Assistant Professor, Ph.D., (Physics).

Meyers, Cal Y., Professor, Ph.D., (Chemistry and Biochemistry).

Migone, Aldo D., Assistant Professor, Ph.D., (Physics).

Muchmore, C., Professor, (Mechanical Engineering and Energy Processes).

O'Brien, William S., Associate Professor, Ph.D., (Mechanical Engineering and Energy Processes).

Paparo, Anthony A., Professor, Ph.D., (Anatomy).

Rajan, S., Professor, Ph.D., (Mechanical Engineering and Energy Processes).

Sami, Sedat, Professor, Ph.D., (Civil Engineering and Mechanics).

Sanders, Frank C. Jr., Associate Professor, Ph.D., (Physics).

Saporoschenko, Mykola, Professor, Ph.D., (Physics).

Sayeh, Mohammad R., Assistant Professor, Ph.D., (Electrical Engineering).

Scheiner, Stephen, Professor, Ph.D., (Chemistry and Biochemistry).

Shanahan, Michael, Associate Professor, Ph.D., (Physiology).

Shriver, John W., Associate Professor, Ph.D., (Chemistry and Biochemistry).

Sinha, Atmesh K., Associate Professor, Ph.D., (Mining Engineering).

Smith, Gerard V., Professor and *Director*, Ph.D., (Molecular Science and Chemistry and Biochemistry).

Smith, James G., Professor, Ph.D., (Electrical Engineering).

Snyder, Herbert H., Professor, (Mathematics).

Thomopoulos, Stelios, Assistant Professor, Ph.D., (Electrical Engineering).

Tyrrell, James, Professor, Ph.D., (Chemistry and Biochemistry).

Viswanathan, Ramanarayanan, Associate Professor, Ph.D., (Electrical Engineering).

Wittmer, Dale E., Associate Professor, Ph.D., (Mechanical Engineering and Energy Processes).

Yopp, John H., Professor, Ph.D., (Botany).

Zitter, Robert N., Professor, Ph.D., (Physics).

Music

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Allison, Robert, Assistant Professor, D.M.A., University of Illinois, 1988; 1982. Trumpet, jazz.

Barta, Michael, Associate Professor, M.Mus., Liszt Academy Conservatory, 1975; 1985. Violin.

Barwick, Steven, Professor, *Emeritus*, Ph.D., Harvard University, 1949; 1955.

Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959; 1965. Organ, music theory.

Beattie, Donald, Associate Professor, M.Mus., University of Colorado, 1977; 1979. Class piano, piano pedagogy.

Best, Richard, Professor, Metropolitan Opera School, 1968; 1984. Voice.

Bottje, Will Gay, Professor, *Emeritus*, A.Mus.D., Eastman School of Music, 1955; 1957.

Breznikar, Joseph, Associate Professor, M.Mus., University of Akron, 1977; 1980. Classical guitar.

Delphin, Wilfred, Professor, D.M.A., University of Southern Mississippi, 1978; 1988. Piano.

Fligel, Charles, Associate Professor, M.Mus., University of Kentucky, 1966; 1976. Bassoon, music literature.

Grizzell, Mary Jane, Assistant Professor, *Emerita*, M.Mus., Eastman School of Music, 1943; 1959.

Hanes, Michael D., Associate Professor, M.M.Ed., Southern Illinois University at Carbondale, 1965; 1970. Bands, musical theater, percussion.

House, Mary Elaine Wallace, Professor, *Emerita*, M. Mus., University of Illinois, 1954; 1969.

Hunt, C. B., Jr., Professor, *Emeritus*, Ph.D.,

University of California, Los Angeles, 1949; 1974.

Hussey, George, Professor, M.A.Ed., Washington University, 1963; 1963. Oboe, music appreciation.

Mandat, Eric, Associate Professor, D.M.A., Eastman School of Music, 1986; 1981. Clarinet, composition.

McHugh, Catherine, Professor, *Emerita*, Ed.D., Columbia University, 1959; 1969.

Mellado, Daniel, Associate Professor, Ph.D., Michigan State University, 1979; 1979. Cello.

Miller, Harold, Assistant Professor, M.Mus., Wisconsin Conservatory of Music, 1981; 1984. Jazz, string bass.

Mochnick, John, Associate Professor, D.M.A., University of Cincinnati, 1978, 1984. Choral.

Mueller, Robert, Professor, *Emeritus*, Ph.D., Indiana University, 1964; 1948.

Olsson, Phillip, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949; 1949.

Phillips, Dan, Assistant Professor, M.M., University of Notre Dame, 1979; 1988. Bands, horn.

Poulos, Helen, Associate Professor, D.M., Indiana University, 1971; 1969. Violin, musicology.

Resnick, Robert, Professor, *Emeritus*, M.Mus., Wichita State University, 1949; 1949.

Romain, Edwin, Professor, D.M.A., University of Southern Mississippi, 1978; 1988. Piano.

Roubos, Robert, Professor and *Director*, D.M.A., University of Michigan, 1965; 1981.

Simmons, Margaret, Associate Professor, M.Mus., University of Illinois, 1976; 1977. Piano accompanying.

Stemper, Frank, Associate Professor, Ph.D., University of California, 1981; 1983. Composition.

Taylor, Charles, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1950; 1957.

Tomasz, Melanie, Assistant Professor, M.Mus., Northwestern University, 1973; 1983. Voice.

Underwood, Jervis, Professor, Ph.D., North Texas State University, 1970; 1971. Flute, musicology.

Weiss, Robert, Associate Professor and *Assistant Director*, Ph.D., Southern Illinois University at Carbondale, 1984; 1978. Music education, trombone.

Werner, Kent, Associate Professor, Ph.D., University of Iowa, 1966; 1963. Piano, music theory.

Pharmacology

SCHOOL OF MEDICINE

Arneric, Stephen P., Assistant Professor, Ph.D., (Springfield), University of Iowa; 1983; 1986. Pharmacology of neurotransmission; novel transmitters; neural control of cerebral circulation; control of arterial pressure regulation during aging.

Becker, Robert E., Professor, M.D., (Springfield), McGill University, Canada, 1960; 1983.

Neurochemistry/neuropharmacology and biochemical pharmacology.

Browning, Ronald A., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971; 1973. Pharmacology, neuropharmacology.

Caspary, Donald, Associate Professor, Ph.D., (Springfield), New York University, 1971; 1973. Sensory physiology, neurophysiology, neuroanatomy, comparative physiology.

Cline, William H., Professor, Ph.D., (Springfield), West Virginia University, 1965; 1974. Cardiovascular physiology and pathophysiology, coronary circulation, myocardial metabolism.

Dunaway, George, Associate Professor, Ph.D., (Springfield), University of Oklahoma, 1970; 1975. Regulation of energy/metabolism during diabetes; development and aging; induction of experimental ulcers in rats.

Faingold, Carl L., Professor, Ph.D., (Springfield), Northwestern University, 1970; 1972. Convulsive seizure mechanisms and effects of anticonvulsants; pharmacological alterations of cerebral evoked potentials.

Giacobini, Ezio, Professor, Ph.D., M.D., (Springfield), Karolinska Institute of Medicine, (Stockholm, Sweden), 1953; 1959; 1983. Neuropharmacology of Alzheimer's disease, development and aging of cholinergic synapses.

Lee, Tony, Professor, Ph.D., (Springfield), West Virginia University, 1973; 1975. Neuromuscular transmission in cerebral blood vessels.

Peterson, Rudolph, Professor, Ph.D., University of Florida, Gainesville, 1965; 1976. Role of plasma membrane of sperm-egg adhesion; plasma membrane transport, mechanism of synthesis of plasma membrane proteins; relation of the cytoskeleton to plasma membrane function.

Rybak, Leonard, Associate Professor, Ph.D., (Springfield), University of Minnesota, 1979; 1981. Investigation of mechanisms controlling ionic composition and resting potentials in the peripheral auditory apparatus using chinchilla model.

Sherman, Kathleen, Assistant Professor, Ph.D., (Springfield), University of Pittsburgh, 1979; 1985. Cholinergic neuropharmacology, regulation of cholinergic mechanisms, aging, Alzheimer's disease.

Somani, Satu, Professor, Ph.D., (Springfield), Liverpool University, England, 1969; 1976. Drug disposition.

Walsh, Edward, Assistant Professor, Ph.D., (Springfield), Creighton University, 1983; 1983. Electrophysiology, neuropharmacology, development and anatomy of the mammalian auditory system.

Philosophy

COLLEGE OF LIBERAL ARTS

Alexander, Thomas, Assistant Professor, Ph.D., Emory University, 1984; 1985. American philosophy, classical philosophy, aesthetics, Dewey.

Clarke, David S., Jr., Professor, Ph.D., Emory University, 1964; 1966. Philosophy of language, logic.

Diefenbeck, James A., Professor, *Emeritus*, Ph.D., Harvard University, 1950; 1950.

Eames, Elizabeth R., Professor, Ph.D., Bryn Mawr College, 1951; 1963. Recent British philosophy, American philosophy, action theory.

Gatens-Robinson, Eugenie, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1974. History and philosophy of science, epistemology, feminism.

Gillan, Garth J., Professor, Ph.D., Duquesne University, 1966; 1969. Critical theory, continental philosophy.

Hahn, Lewis E., Research Professor, *Emeritus*, Ph.D., University of California, 1939; 1963.

Hahn, Robert, Associate Professor, Yale University, 1976; 1982. Greek philosophy, philosophy and history of science, Kant.

Hayward, John, Professor, *Emeritus*, Ph.D., University of Chicago, 1949; 1968.

Howie, John, Professor, Ph.D., Boston University, 1965; 1966. Philosophy of religion, ethics, American idealism.

Johnson, Mark, Professor, Ph.D., University of Chicago, 1977; 1977. Philosophy of language, aesthetics, ethics, Kant studies.

Kelly, Matthew J., Associate Professor and Chair, Ph.D., University of Notre Dame, 1963; 1966. Medieval philosophy, Greek philosophy, metaphysics.

King, Sallie B., Assistant Professor, Ph.D., Temple University, 1981; 1983. Asian philosophy, cross-cultural philosophy, philosophy of religion.

McClure, George T., Professor, Ph.D., Ohio State University, 1958; 1958. Epistemology, philosophy of science, aesthetics.

Moore, Willis, Professor, *Emeritus*, Ph.D., University of California, 1936; 1955.

Plochmann, George Kimball, Professor, *Emeritus*, Ph.D., University of Chicago, 1950; 1949.

Schedler, George, Professor, Ph.D., University of California, San Diego, 1973; 1973. Philosophy of law, ethics, social philosophy.

Schilpp, Paul A., Professor, *Emeritus*, Ph.D., Stanford University, 1936; 1965.

Tyman, Stephen, Associate Professor, Ph.D., University of Toronto, 1980; 1980. Eighteenth and 19th century European philosophy, phenomenology, existentialism.

Physical Education

COLLEGE OF EDUCATION

Ackerman, Kenneth, Assistant Professor, M.A., Michigan State University, 1959; 1969. Exercise physiology.

Baker, John A. W., Associate Professor, Ph.D., University of Iowa, 1979; 1980. Administration and curriculum.

Blinde, Elaine M., Assistant Professor, Ph.D., University of Illinois, 1987; 1987. Social psychology of sport.

Brechtelsbauer, Kay, Assistant Professor,

Ph.D., Southern Illinois University at Carbondale, 1980; 1965. Motor behavior.

Buckenmeyer, Philip J., Assistant Professor, Ph.D., University of Maryland, 1986; 1987. Exercise physiology.

Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970; 1969. Exercise physiology.

DeVita, Paul, Assistant Professor, Ph.D., University of Oregon, 1986; 1986. Biomechanics.

Fischman, Mark G., Assistant Professor, Ph.D., The Pennsylvania State University, 1983; 1982. Motor learning.

Good, Larry, Associate Professor, Ed.D., Temple University, 1968; 1967. Kinesiology.

Knowlton, Ronald, Professor and *Chair*, Ph.D., University of Illinois, 1961; 1961. Exercise physiology.

Martin, Janis H., Assistant Professor, Ed.D., University of Tennessee, 1982; 1987. Motor development.

Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958; 1961.

Shea, Edward, Professor, *Emeritus*, Ph.D., New York University, 1955; 1954.

Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954; 1948.

Thorpe, JoAnne Lee, Professor, Ph.D., Texas Woman's University, 1964; 1958. Administration.

West, Charlotte, Professor, Ph.D., University of Wisconsin, 1969; 1957. Administration.

Wilson, Donna, Assistant Professor, M.F.A., University of Oklahoma, 1975; 1987. Dance.

Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951; 1952.

Physics

COLLEGE OF SCIENCE

Ali, Naushad, Assistant Professor, Ph.D., University of Alberta, Canada, 1984; 1986.

Arvin, Martin J., Professor, *Emeritus*, Ph.D., University of Illinois, 1934; 1949.

Cutnell, John D., Professor, Ph.D., University of Wisconsin, 1967; 1968.

Gruber, Bruno J., Professor, Ph.D., University of Vienna, Austria, 1961; 1972.

Hart, Charles F., Assistant Professor, Ph.D., University of Texas, 1981; 1986.

Henneberger, Walter C., Professor, Ph.D., Gottingen University, Germany, 1959; 1963.

Johnson, Kenneth W., Associate Professor, Ph.D., Ohio State University, 1967; 1970.

Malhotra, Vivak, Assistant Professor, Ph.D., Kanpur University, India, 1978; 1984.

Malik, F. Bary, Professor, Ph.D., Gottingen University, 1958; 1980.

Masden, J. Thomas, Assistant Professor, Ph.D., Purdue University, 1983; 1984.

Migone, Aldo D., Assistant Professor, Ph.D., The Pennsylvania State University, 1984; 1986.

Nickell, William E., Professor, *Emeritus*, Ph.D., University of Iowa, 1954; 1963.

Sanders, Frank C., Jr., Associate Professor and *Chair*, Ph.D., University of Texas, 1968; 1969.

Saporoschenko, Mykola, Professor, Ph.D., Washington University, 1958; 1965.

Watson, Richard E., Professor, *Emeritus*, Ph.D., University of Illinois, 1938; 1958.

Zitter, Robert N., Professor, Ph.D., University of Chicago, 1962; 1967.

Physiology

SCHOOL OF MEDICINE

Banerjee, Chandra, Professor, M.D., University of Calcutta, 1955, Ph.D., Medical College of Virginia, 1967; 1974. Pulmonary physiology, neonatal physiology.

Bartke, Andrzej, Professor and *Chair*, Ph.D., University of Kansas, 1965; 1984. Reproductive endocrinology; role of prolactin in the control of hypothalamic, pituitary and testicular function; seasonal breeding.

Browning, Ronald A., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971; 1973. Pharmacology, neuropharmacology.

Coulson, L. Richard, Professor, Ph.D., University of Toronto, Canada, 1971; 1978. Cardiovascular physiology and pathophysiology, coronary circulation, myocardial metabolism.

Cox, Thomas C., Associate Professor, Ph.D., Arizona State University, 1979; 1982. Ion transport across epithelial tissue.

Dunagan, Tommy T., Professor, Ph.D., Purdue University, 1960; 1962. Physiology and biochemistry of Acanthocephala, carbohydrate metabolism, nervous system, lacunar system.

Ellert, Martha, Associate Professor, Ph.D., University of Miami, 1967; 1975. Properties of sulfhydryl reagent pCMBS; effects of material hyperthermia and rubella vaccine on pregnant animals and their offspring.

Falvo, Richard E., Associate Professor, Ph.D., University of Wyoming, 1970; 1973. Steroidal control of gonadotropin secretion and immunological approaches to the study of male reproduction.

Ferraro, James S., Assistant Professor, Ph.D., The Chicago Medical School, 1984; 1987. Physiological, behavioral, and reproductive aspects of circadian rhythmicity; photoperiodic response of seasonal breeders; endogenous nature of biological rhythms during spaceflight.

Foote, Florence M., Professor, *Emerita*, Ph.D., University of Iowa, 1940; 1963.

Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971; 1975. Mechanism of fever and normal thermoregulation in homeothermic animals.

Kaplan, Harold M., Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1949.

Miller, Donald M., Professor, Ph.D., University of Illinois, 1965; 1966. Comparative physiology and ciguatera toxins.

Myers, Hurley, Professor, Ph.D., University of Tennessee, 1969; 1971. Cardiovascular physiology, coronary occlusion; vascular smooth muscle hypertension.

Nequin, Lynn, Associate Professor, Ph.D.,

University of Illinois Medical Center, Chicago, 1970; 1976. Female reproductive physiology; environmental control of neuroendocrine systems and seasonal reproduction.

Peterson, Rudolph, Professor, Ph.D., University of Florida, Gainesville, 1965; 1976. Role of plasma membrane of sperm-egg adhesion; plasma membrane transport, mechanism of synthesis of plasma membrane proteins; relation of the cytoskeleton to plasma membrane function.

Russell, Lonnie D., Professor, Ph.D., University of Nebraska, 1974; 1977. Male reproduction system, hormonal control of spermatogenesis; sertoli cell function; functional morphology of the testis; fertilization.

Shanahan, Michael F., Associate Professor, Ph.D., University of Michigan, 1976; 1985. Insulin action and glucose transport across cell membranes.

Sollberger, Arne, Professor, *Emeritus*, M.D., Caroline Institute of Medicine and Dentistry, Sweden, 1957; 1972.

Steger, Richard W., Associate Professor, Ph.D., University of Wyoming, 1974; 1985. Neuroendocrinology, gerontology, reproductive endocrinology.

Wade, David, Associate Professor, Ph.D., Cambridge University, 1967; 1974. Renal physiology, cell biology.

Yau, William M., Professor, Ph.D., Medical College of Virginia, 1971, 1973. Gastrointestinal physiology.

Plant and Soil Science

COLLEGE OF AGRICULTURE

Chong, She-Kong, Associate Professor, Ph.D., University of Hawaii, 1979; 1979. Soil physics.

Elkins, Donald M., Professor, Ph.D., Auburn University, 1967; 1967. Field and forage crops, plant growth regulators.

Hillyer, Irvin G., Professor, Ph.D., Michigan State University, 1956; 1956. General horticulture and vegetable production.

Jones, Joe H., Professor, Ph.D., *Emeritus*, Ohio State University, 1960; 1964.

Kapusta, George, Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1964. Weed control and crop production.

Kjelgren, Roger K., Assistant Professor, Ph.D., University of Washington, 1988; 1988. Ornamental horticulture and water relationships.

Klubek, Brian P., Associate Professor, Ph.D., Utah State University, 1977; 1978. Soil microbiology.

Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953; 1966.

Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963; 1968. Plant genetics and breeding.

Olsen, Farrel J., Professor, Ph.D., Rutgers University, 1961; 1971. Forages and pasture agronomy.

Portz, Herbert L., Professor, *Emeritus*, Ph.D., University of Illinois, 1954; 1954.

Preece, John E., Associate Professor, Ph.D.,

University of Minnesota, 1980; 1980. Horticultural physiologist.

Starman, Terri W., Assistant Professor, Ph.D., Texas A & M University, 1986; 1986. Floriculture, post harvest physiology of ornamental crops.

Stucky, Donald J., Professor, Ph.D., Purdue University, 1963; 1970. Crop physiology, crop ecology, crop production and environmental aspects.

Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982; 1982. Fruit production.

Tweedy, James A., Professor, Ph.D., Michigan State University, 1966; 1966. Herbicides and weed control.

Varsa, Edward C., Associate Professor, Ph.D., Michigan State University, 1970; 1970. Soil chemistry, fertility, and management.

Political Science

COLLEGE OF LIBERAL ARTS

Baker, John H., Associate Professor, Ph.D., Princeton University, 1961; 1966. American politics, urban politics, intergovernmental relations, local government.

Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, India, 1969; 1968. Political theory, international relations, public administration.

Chou, Ikua, Professor, *Emeritus*, Ph.D., Fletcher School of Law and Diplomacy, 1949; 1964.

Clinton, Robert L., Assistant Professor, Ph.D., University of Texas, 1985; 1985. Public law, American politics, public choice theory.

Dale, Richard, Associate Professor, Ph.D., Princeton University, 1962; 1966. African politics, comparative politics, international politics, and civil-military politics.

Derge, David Richard, Professor, Ph.D., Northwestern University, 1955; 1972. American politics, political parties, public opinion, administrative decision-making.

Desai, Uday, Associate Professor, Ph.D., University of Pittsburgh, 1973; 1978. Public administration, public policy, organizational theory.

Ervin, Osbin L., Associate Professor, Ph.D., University of Tennessee, 1974; 1974. Public administration, policy analysis, environmental and land-use policy, fiscal management.

Foster, John L., Associate Professor and Chair, Ph.D., University of Minnesota, 1971; 1975. Organizational behavior and theory, urban government, program evaluation, public policy.

Garner, William R., Associate Professor, Ph.D., Tulane University, 1963; 1966. Latin American politics, inter-American relations, political culture/socialization, political philosophy.

Hanson, Earl Thomas, Professor, *Emeritus*, Ph.D., University of Illinois, 1948; 1960.

Hardenbergh, William, Professor, Ph.D., University of Illinois, 1954; 1960. Comparative politics, especially Britain and old Commonwealth countries, South Asia, Middle East.

Jackson, John S., III, Professor, Ph.D., Vanderbilt University, 1971; 1969. American government and politics, political parties, public opinion, state and local government.

Jacobini, Horace B., Professor, Ph.D., University of Kansas, 1951; 1957. International relations, comparative politics, jurisprudence, administrative law.

Kamarasy, Egon K., Assistant Professor, *Emeritus*, Doctor Politics, Budapest University, Hungary, 1942; 1959.

Kenney, David T., Professor, *Emeritus* Ph.D., University of Illinois, 1952; 1951.

Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938; 1946.

Landecker, Manfred, Associate Professor, Ph.D., Johns Hopkins University, 1965; 1959. International relations, U.S. foreign policy, comparative politics and foreign policy, economic and political development.

Mason, Ronald M., Associate Professor, Ph.D., University of Iowa, 1976; 1976. Political theory and American politics, political participation.

McGrath, Robert A., Professor, *Emeritus*, Ph.D., University of Iowa, 1947; 1949.

Melone, Albert, Professor, Ph.D., University of Iowa, 1972; 1979. Public law and American politics.

Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971; 1967. Methodology, American political behavior.

Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941; 1949.

Nelson, Randall H., Professor, *Emeritus*, Ph.D., University of Michigan, 1956; 1955.

Paine, JoAnn P., Associate Professor, Ph.D., University of Oregon, 1967; 1966. Empirical theory, international politics, comparative politics.

Schmidt, Diane, Assistant Professor, Ph.D., Washington University, 1988; 1988. American government, public policy, legislative behavior, public opinion, comparative politics.

Schubert, Glendon, Research Professor, Ph.D., Syracuse University, 1948; 1986. Biology and politics, political culture, political behavior.

Snavelly, Keith, Assistant Professor, Ph.D., University of California at Davis, 1984; 1984. Public administration; personnel management; state, local, and urban government.

Somit, Albert, Distinguished Service Professor, Ph.D., University of Chicago, 1947; 1980. Political theory and bio-politics.

Stauber, Leland G., Associate Professor, Ph.D., Harvard University, 1964; 1966. Socialism, comparative public policy, comparative government and politics.

Turley, William S., Professor, Ph.D.; University of Washington, 1972; 1971. International relations, comparative politics.

Psychology

COLLEGE OF LIBERAL ARTS

Bekker, L. Demoyne, Associate Professor, Ph.D., Ohio State University, 1968; 1969.

Clinical, personality development, family interactions, family therapy, adjustment to stress.

Brutten, Gene J., Professor, Ph.D., University of Illinois, 1957; 1957.

Buck, Terence D., Associate Professor, Ph.D., University of Missouri, 1968; 1969. Counseling, and psychotherapy, group process and group dynamics, management of psychological services.

Carrell, Patricia L., Professor, Ph.D., University of Texas at Austin, 1966; 1968. Experimental, developmental, psycholinguistics, cognition, second language.

Carrier, Neil A., Professor, *Emeritus*, Ph.D., University of Michigan, 1956; 1957.

Carter, Robert T., Ph.D., University of Maryland, 1987; 1987. Counseling, cross-cultural psychology, racial identity developmental and cultural values, career counseling process, and psychotherapy process and outcome.

Corcoran, Kevin, Ph.D., University of Connecticut, 1984; 1988. Clinical, applications of social learning theory to addiction, parental adjustment to the handicapped child.

Cunningham, Jean, Assistant Professor, Ph.D., University of Utah, 1981; 1981. Clinical self-disclosure, human sexuality, sex-roles, psychological assessment.

Dillon-Sumner, Ronna, Associate Professor, Ph.D., University of California, Riverside, 1978; 1978. Experimental, human psychophysiology, cognitive assessment, life span, cognitive development.

Dollinger, Stephen, Associate Professor, Ph.D., University of Missouri, 1977; 1977. Clinical, child and family therapy, applications of attribution theory.

Ehrenfreund, David, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947; 1962.

Gannon, Linda, Associate Professor, Ph.D., University of Wisconsin, 1975; 1975. Clinical, human psychophysiology, behavioral medicine, psychosomatic disorders, learned helplessness, feminist therapy.

Gilbert, Brenda O., Assistant Professor, Ph.D., University of Florida, 1985; 1986. Clinical, child behavior therapy, pediatric psychology, child behavior assessment.

Gilbert, David G., Assistant Professor, Ph.D., Florida State University, 1978; 1985. Clinical, behavior therapy, marital research and therapy, behavioral medicine, smoking psychophysiology, personality, emotions.

Graham, Jack W., Professor, Ph.D., Purdue University, 1951; 1951. Counseling, measurement and evaluation.

Jensen, Robert, Associate Professor, Ph.D., Northern Illinois University, 1976; 1981. Biopsychology, psychopharmacology, developmental psychobiology.

Kelley, Noble, H., Professor, *Emeritus*, Ph.D., State University of Iowa, 1936; 1951.

Leong, Fred, Ph.D., University of Maryland, 1988; 1987. Counseling, career development, cross-cultural counseling, stress and coping, and organizational psychology.

Lit, Alfred, Professor, *Emeritus*, Ph.D., Columbia University, 1948; 1961.

McHose, James H., Professor and *Chair*, Ph.D., University of Iowa, 1961; 1961. Experi-

mental, learning theory, motivation, animal learning.

McKillip, John A., Associate Professor, Ph.D., Loyola University of Chicago, 1974; 1975. Experimental, counseling, program evaluation, need assessment, health promotion programming.

Meltzer, Donald, Professor, Ph.D., University of Pittsburgh, 1963; 1966. Experimental, learning instrumentation, psychopharmacology.

Mitchell, Thomas O., Associate Professor, Ph.D., University of Colorado, 1969; 1968. Experimental, social, psycholinguistics, person perception, computer simulation of social behavior, metatheory, psychology of situations.

Molfese, Dennis L., Professor, Ph.D., Pennsylvania State University, 1972; 1972. Experimental, developmental biopsychology, developmental neurolinguistics, psycholinguistics, cognition.

Molfese, Victoria J., Professor, Ph.D., Pennsylvania State University, 1974; 1972. Experimental, developmental biopsychology, cognition, aging, perinatal risk, infant behavioral and neuroelectrical assessments.

O'Donnell, James P., Associate Professor, Ph.D., University of Pittsburgh, 1965; 1965. Clinical, child psychopathology, clinical neuropsychology.

Pitz, Gordon F., Professor, Ph.D., Carnegie Institute of Technology, 1963; 1963. Experimental, decision making, cognitive processes and judgment.

Purcell, Thomas D., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1965; 1960.

Radtke, Robert C., Associate Professor, Ph.D., State University of Iowa, 1963; 1966. Experimental, memory, cognitive processes, aging.

Rafferty, Janet E., Professor, Ph.D., Ohio State University, 1952; 1954. Clinical, personality, child, prevention and intervention.

Ramanaiah, Nerella, Professor, Ph.D., University of Oregon, 1971; 1971. Experimental, clinical personality assessment, test theory, quantitative methods.

Ringuette, Eugene L., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1963; 1967.

Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963; 1963. Clinical, personality theory and dynamics, personality evaluation, rational emotive psychotherapy.

Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969; 1969. Experimental, teaching methods, individual differences in learning, learning style, cognitive style.

Shea, Sandra, Ph.D., Vanderbilt University, 1980; 1988. Experimental vision, sensation, and perception.

Shoemaker, Donald J., Professor, *Emeritus* Ph.D., Ohio State University, 1955; 1960.

Smith, Douglas C., Associate Professor, Ph.D., Kansas State University, 1977; 1979. Experimental, biopsychology, neurophysiology, vision, development, learning and memory.

Snyder, John F., Associate Professor, Ph.D.,

Loyola University, 1965; 1968. Counseling, crisis intervention, consultation, supervision, rural drug abuse prevention programming, counseling evaluation research.

Swanson, Jane L., Assistant Professor, Ph.D., University of Minnesota, 1986; 1986. Counseling, career choice and development, measurement of vocational interests, counselor training.

Tinsley, Diane J., Assistant Professor, Ph.D., University of Minnesota, 1972; 1978. Counseling, assessment of training and supervision, women's career development, psychological measurement, leisure activities.

Tinsley, Howard E.A., Professor, Ph.D., University of Minnesota, 1971; 1973. Counseling, career counseling, psychological measurement, leisure activities, personality.

Vaux, Alan, Associate Professor, Ph.D., Trinity College, 1979; 1980. Clinical, community psychology, environmental psychology, behavioral analysis, intervention and theory.

Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948; 1952.

Yanico, Barbara, Associate Professor, Ph.D., Ohio State University, 1977; 1978. Counseling, psychology of women, sex roles, counseling theories, vocational development, employee relations.

Radio-Television

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Davis, Dennis, Professor, Ph.D., University of Minnesota, 1973; 1984. Political communication, quantitative research methods, media studies.

Atkin, David, Assistant Professor, Ph.D., Michigan State University, 1988; 1987.

Dybvig, Homer E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970; 1961.

Foote, Joe S., Associate Professor and *Chair*, Ph.D., University of Texas at Austin, 1979; 1986. Political news and management.

Garry, Kenneth J., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1972. Sales, management, and public broadcasting.

Hildreth, Richard, Associate Professor, *Emeritus*, M.S., Syracuse University, 1968; 1968.

Keller, Kenneth R., Assistant Professor, M.A., University of Illinois, 1966; 1984. Broadcast journalism, television news, broadcast reporting, documentary production, television field production.

Lin, Carolyn, Assistant Professor, Ph.D., Michigan State University, 1987; 1987.

Murrie, Michael, Assistant Professor, M.A., University of Missouri, Columbia, 1977; 1988.

Robbins, Buren C., Associate Professor, *Emeritus*, M.A., University of Iowa, 1935; 1949.

Shipley, Charles W., Professor, *Emeritus*, Ph.D., Florida State University, 1971; 1971.

Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969; 1979. Social effects, new technology and intercultural communications.

Recreation

COLLEGE OF EDUCATION

Allen, John R., Associate Professor and Chair, Ph.D., Southern Illinois University at Carbondale, 1978; 1978.

Glover, Regina, Assistant Professor, Ph.D., University of Maryland, 1983; 1983.

McEwen, Douglas, Associate Professor, Ph.D., Michigan State University, 1973; 1975.

O'Brien, William, Professor, *Emeritus*, Re.D., Indiana University, 1967; 1948.

Taylor, Loren, Professor, *Emeritus*, Ed.D., Columbia University, 1957; 1957.

Teaff, Joseph D., Associate Professor, Ed.D., Columbia University, 1973; 1980.

Rehabilitation Institute

COLLEGE OF HUMAN RESOURCES

Allen, Harry A., Professor, Ed.D., University of Arkansas, 1971; 1970. Mental illness, psychosocial aspects of physical disabilities, counseling, death, and dying.

Austin, Gary F., Professor and Director, Ph.D., Northwestern University, 1973; 1984. Deafness rehabilitation; psychosocial aspects of disability.

Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1972; 1961. Medical and psychosocial aspects of rehabilitation.

Benshoff, John J., Assistant Professor, Ph.D., University of Northern Colorado, 1987; 1988. Rehabilitation administration, private sector rehabilitation, substance abuse.

Bordieri, James E., Associate Professor, Ph.D., Illinois Institute of Technology, 1980; 1986. Vocational evaluation, rehabilitation administration, job placement, rehabilitation management.

Bryson, Seymour L., Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1969. Social, economic, and culturally different clients.

Crimando, William, Professor, Ph.D., Michigan State University, 1980; 1980. Job development and placement, computers in rehabilitation, adjustment services, staff training and development.

Cuvo, Anthony J., Professor, Ph.D., University of Connecticut, 1973; 1973. Behavior analysis and intervention in developmental disabilities, evaluation research, legal and ethical issues.

Dickey, Thomas W., Associate Professor, *Emeritus*, M.A., Southern Illinois University at Carbondale, 1964; 1964.

Falvo, Donna, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1978; 1974. Maintenance and support of the disabled.

Gardner, Margaret S., Associate Professor,

Emerita, Ph.D., Northwestern University, 1960; 1968.

Green, Regina, Assistant Professor, Ph.D., Utah State University, 1986; 1986. Experimental and applied behavior analysis, developmental disabilities.

Greene, Brandon, Associate Professor, Ph.D., Florida State University, 1979; 1979. Behavior analysis in consumer affairs; parent and staff training.

Grenfell, John E., Professor, Ed.D., Oregon State University, 1966; 1966. Corrections, substance abuse, disability law.

Hafer, Marilyn, Associate Professor, *Emerita*, Ph.D., Texas Tech University, 1971; 1979.

Hanley-Maxwell, Cheryl, Assistant Professor, Ph.D., University of Illinois, 1986; 1986. Supported employment for persons with severe disabilities, transitions from school-to-work for youth with handicaps, mental retardation.

Hawley, Irene B., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1973; 1968.

Janikowski, Timothy P., Assistant Professor, Ph.D., University of Wisconsin-Madison, 1988; 1988. Assessment, credentialing, private for-profit rehabilitation, computers in rehabilitation.

Lee, Robert E., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1964; 1964.

Poppen, Roger L., Associate Professor, Ph.D., Stanford University, 1968; 1970. Stress reduction, relaxation, biofeedback, human operant conditioning.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1955.

Riggat, Theodore, Professor, Ed.D., University of Northern Colorado, 1977; 1979. Rehabilitation administration, professional burnout.

Rubin, Harris B., Professor, Ph.D., University of Chicago, 1965; 1966. Sexual behavior, applied behavior analysis, treatment of incarcerated offenders, and prison reform.

Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968; 1980. Rehabilitation research, case management, history and philosophy of rehabilitation.

Schumacher, Brockman, Professor, Ph.D., Washington University, 1969; 1967. Mental illness, economic deprivation, counselor training, independent living.

Taricone, Patrick, Assistant Professor, Ph.D., University of Northern Colorado, 1984; 1986. Alcoholism and substance abuse treatment, counseling, and rehabilitation.

Vieceli, Louis, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1959; 1958.

Wright, W. Russell, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1971. Design and conduct of survey research and selected analysis.

Religious Studies

COLLEGE OF LIBERAL ARTS

Bengston, Dale R., Assistant Professor and

Chair, Ph.D., Hartford Seminary Foundation, 1971; 1973.

Hayward, John F., Professor, *Emeritus*, Ph.D., University of Chicago, 1949; 1968.

Social Work

COLLEGE OF HUMAN RESOURCES

Auerbach, Arnold J., Professor, *Emeritus*, Ph.D., University of Pittsburgh, 1961; 1972.

Brown, Foster, S., Assistant Professor and *Assistant Director*, Ph.D., Southern Illinois University at Carbondale, 1978; 1969. Direct practice, ethnicity, field instruction, micro-computers.

Davidson, Mary E., Associate Professor and *Director*, Ph.D., Brandeis University, 1975; 1984. Social welfare policy, planning, advocacy research, child welfare, and human rights.

Newcomb, Paul R., Assistant Professor, Ph.D., Florida State University, 1986; 1986. Family and child welfare, micro practice, rural substance abuse, cohabitation.

Newman, Bernie S., Assistant Professor, Ph.D., University of Pittsburgh, 1985; 1986. Social work research methods, human behavior in the social environment, women's issues, gay/lesbian issues.

Parker, Michael D., Assistant Professor, D.S.W., Arizona State University, 1986; 1986. Social welfare policy and planning.

Sociology

COLLEGE OF LIBERAL ARTS

Alix, Ernest K., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1966; 1967. Deviant behavior, crime/delinquency, law and society.

Brooks, Melvin, Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1941; 1956.

Burger, Thomas, Associate Professor, Ph.D., Duke University, 1972; 1973. Theory, history of social thought, social stratification.

Eynon, Thomas G., Professor, Ph.D., Ohio State University, 1959; 1968. Crime/delinquency, criminal justice/corrections, social change, energy and society.

Hawkes, Roland K., Associate Professor, Ph.D., Johns Hopkins University, 1967; 1970. Research methodology, mathematical, stratification and mobility.

Hendrix, Lewellyn, Associate Professor, Ph.D., Princeton University, 1974; 1971. Family and kinship, cross-cultural studies, social stratifications.

Hope, Keith, Professor, Ph.D., London University, 1963; 1986. Statistics, social stratification and mobility, methods.

Lareau, Annette P., Assistant Professor, Ph.D., University of California at Berkeley, 1984; 1986. Education, family, social stratification.

Nall, Frank C., II, Associate Professor, Ph.D., Michigan State University, 1959; 1964. Urban culture, black culture.

Shalin, Dmitri N., Assistant Professor,

Ph.D., Institute of Sociology Research, USSR Academy of Sciences, 1973; 1982. Sociological theory, history of theory, comparative/political sociology.

Shelby, Lon R., Professor and *Chair*, Ph.D., University of North Carolina, 1962; 1969. Methods of historical sociology, history of social thought.

Snyder, Charles R., Professor, *Emeritus*, Ph.D., Yale University, 1954; 1960.

Taub, Diane E., Assistant Professor, Ph.D., University of Kentucky, 1986; 1987. Deviant behavior, medical sociology, social psychology.

Ward, Kathryn B., Associate Professor, Ph.D., University of Iowa, 1982; 1982. Social demography, women, cross-national studies.

Special Education

COLLEGE OF EDUCATION

Bates, Paul, Professor, Ph.D., University of Wisconsin, 1978; 1978.

Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963; 1964.

Cordoni, Barbara, Professor, Ed.D., Duke University, 1976; 1977.

Crowner, James, Professor, Ph.D., Michigan State University, 1960; 1966.

Ewing, Norma J., Associate Professor and *Chair*, Ph.D., Southern Illinois University at Carbondale, 1974; 1973.

Hisama, Toshiaki, Associate Professor, Ph.D., University of Oregon, 1971; 1971.

Juul, Kristen, Professor, Ph.D., Wayne State University, 1953; 1970.

Miller, Sidney, Professor, Ph.D., The Pennsylvania State University, 1974; 1978.

Morgan, Howard, Professor, *Emeritus*, Ed.D., Wayne State University, 1962; 1969.

Prater, MaryAnne, Assistant Professor, Ph.D., Utah State University, 1987; 1987.

Rainey, Dan, Assistant Professor, *Emeritus*, MS.Ed., Southern Illinois University at Carbondale, 1956; 1957.

Teska, James A., Associate Professor, Ph.D., University of Illinois, 1969; 1973.

Speech Communication

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Breniman, Lester R., Associate Professor, *Emeritus*, Ph.D., Ohio State University, 1953; 1954.

Crow, Bryan, Associate Professor, Ph.D., University of Iowa, 1982; 1981. Interpersonal communication, conversation analysis, media studies.

Davis, Dennis, Professor, Ph.D., University of Minnesota, 1973; 1984. Political communication, quantitative research methods, media studies.

Higgerson, Mary Lou, Associate Professor, Ph.D., University of Kansas, 1974; 1973. Organizational communication and public relations.

Jasinski, James, Assistant Professor,

Ph.D., Northwestern University, 1986; 1985. Rhetorical theory, public address, rhetorical criticism.

Kleinau, Marion L., Professor, Ph.D., University of Wisconsin, 1961; 1959. Performance studies, communication education.

Kleinau, Marvin D., Associate Professor and Chair, Ph.D., Southern Illinois University at Carbondale, 1977; 1963. Communication education, argumentation, rhetoric, and public address.

Lanigan, Richard L., Professor, Ph.D., Southern Illinois University at Carbondale, 1969; 1974. Continental rhetoric, semiology, phenomenology, and philosophy of communication.

Micken, Ralph A., Professor, *Emeritus*, Ph.D., Northwestern University, 1948; 1957.

Pace, Thomas J., Professor, Ph.D., University of Denver, 1957; 1965. Interpersonal and small group communication, phenomenology and philosophy of communication, rhetoric, and public address.

Parkinson, Michael, Associate Professor, Ph.D., University of Oklahoma, 1978; 1978. Language behavior; organizational communication, public relations.

Pelias, Mary, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1983. Communication education, basic course coordinator, research methods.

Pelias, Ronald, Associate Professor, Ph.D., University of Illinois, 1979; 1981. Performance studies, interpersonal communication, literary criticism.

Potter, David J., Professor, *Emeritus*, Ph.D., Columbia University, 1943; 1960.

Sanders, Keith R., Professor, Ph.D., University of Pittsburgh, 1968; 1967. Political communication, interpersonal and small group communication.

Scudder, Joseph, Assistant Professor, Ph.D., Indiana University, 1985; 1985. Organizational communication, small group communication, interpersonal communication.

Smith, William D., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1964; 1961. Interpersonal communication, small group communication, public speaking.

Talley, C. Horton, Professor, *Emeritus*, Ph.D., State University of Iowa, 1936; 1948.

Van Oosting, James, Associate Professor, Ph.D., Northwestern University, 1981; 1981. Performance studies, creative writing, children's literature, and creative writing for performance.

Wakefield, D. Gay, Assistant Professor, Ed.D., East Texas State University, 1983; 1984. Public relations.

Technical Careers, College of

Bleyer, Dorothy R., Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1977; 1957.

Brooks, Thomas M., Professor, Ph.D., Pennsylvania State University, 1961; 1971.

Caldwell, Paul, Associate Professor, *Emeri-*

tus, M.S.Ed., Southern Illinois University at Carbondale, 1965; 1960.

Clarke, David S., Professor, M.S., Catholic University, 1980; 1981. Architecture, urban design, business, and economics.

Dallman, Murnice H., Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1960; 1954.

Ellner, Jack R., Professor, Ph.D., New York University, 1969; 1971. Systems theory and philosophy, human engineering, philosophy and ethics of technology, design of special environments for the handicapped.

Hertz, Donald G., Associate Professor, *Emeritus*, Ed. M., University of Oklahoma, 1953; 1965.

Hertz, Vivienne L., Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1980; 1968.

Johnston, Chester E., Associate Professor, *Emeritus*, A.M., George Peabody College of Teachers, 1953; 1955.

Lampman, Duncan L., Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1956; 1954.

Little, Harold, Associate Professor, *Emeritus*, B.S., Pennsylvania State University, 1951; 1964.

Miller, Harry, Professor, Ed.D., University of Nebraska, 1970; 1970.

Robb, James, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1974; 1962.

Rutledge, Clifton D., Associate Professor, M.Arch., Kansas State University, 1968; 1965.

Schafer, Joseph A., Associate Professor and Director, Aviation Technology, B.S., Lewis College, 1960.

Soderstrom, Harry, Professor, *Emeritus*, M.S., Bradley University, 1952; 1962.

Traylor, George Lelon, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1965; 1957.

Vaughn, Frank Eugene, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1961; 1952.

Vitello, Elaine M., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977.

Technology

COLLEGE OF ENGINEERING AND TECHNOLOGY

Andrews, Paul, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1979; 1971.

Barbay, Joseph E., Jr., Associate Professor and Chair, Ph.D., University of Missouri-Columbia, 1971; 1970.

Besterfield, Dale H., Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1962.

Dunning, E. Leon, Professor, *Emeritus*, Ph.D., University of Houston, 1967; 1957.

Ferketich, Robert R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1980; 1971.

Johnson, Marvin E., Professor, *Emeritus*,

Ed.D., University of Missouri-Columbia, 1959; 1948.

Lindsey, Jefferson F., III, Professor, D. Engr., Lamar University, 1976; 1980.

Orr, James P., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1979.

Rogers, Lee, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1975; 1967.

Szary, Marek, Assistant Professor, Ph.D., Wroclaw (Poland), 1977; 1984.

Trivedi, Abhay V., Assistant Professor, Ph.D., North Dakota State University, 1988; 1985.

Theater

COLLEGE OF COMMUNICATIONS AND FINE ARTS

Hiatt, Jan, Assistant Professor, M.F.A., Ohio University, 1973; 1985. Costume design.

Innerst, Lynne, Assistant Professor, M.F.A., University of Southern California, 1983; 1988. Acting, voice, and movement.

McLeod, Archibald, Professor, *Emeritus*, Ph.D., Cornell University, 1943; 1947.

Merrill-Fink, Lori, Assistant Professor, M.F.A., University of Arizona, Tucson, 1988; 1988. Acting, voice, and movement.

Moe, Christian H., Professor and *Chair*, Ph.D., Cornell University, 1958; 1958. Playwriting, theater history, and criticism.

Morris, Michael, Assistant Professor, M.F.A., Southern Illinois University at Carbondale, 1988; 1988. Acting, directing.

Stevens, David, Associate Professor, Ph.D., Bowling Green University, 1973; 1984. Theater history and criticism.

Stewart-Harrison, Eelin, Professor, *Emerita*, Ph.D., Louisiana State University, 1968; 1961.

Straumanis, Alfreds, Professor and *Director of Graduate Studies*, Ph.D., Carnegie Institute of Technology, 1966; 1973. Baltic theater, theory, and criticism.

Vocational Education Studies

COLLEGE OF EDUCATION

Anderson-Yates, Marcia, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1970. Business and office occupations education, teaching methodology, curriculum development, philosophy of vocational education, sex equity, vocational education administration.

Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968; 1969. Career education, career development theory and research, curriculum development, research methodology, evaluation, humanistic/process education.

Bortz, Richard F., Professor, Ph.D., University of Minnesota, 1967; 1977. Occupational curriculum specialist, occupational analysis, curriculum development.

Buila, Theodore, Associate Professor, Ph.D., Cornell University, 1968; 1968. Educa-

tion and training in developing countries, curriculum strategies in vocational education, nonformal education and training, agricultural development, foundation and policy issues in vocational-technical education.

Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970; 1970. Special needs learners, curriculum development, supervision, methods of instruction, experience based career education.

Erickson, John H., Professor, *Emeritus*, Ed.D., Pennsylvania State University, 1953; 1955.

Fults, Anna Carol, Professor, *Emerita*, Ph.D., Ohio State University, 1946; 1952.

Gooch, Bill G., Associate Professor, Ed.D., University of Tennessee, 1973; 1973. Cooperative vocational education, management of vocational and technical education.

Huck, John F., Associate Professor, Ed.D., University of Illinois 1973; 1970. Applications of microcomputers in education, computer assisted instruction, vocational psychology, manpower research, adult vocational education.

Jenkins, James, Professor, Ed.D., Pennsylvania State University, 1955; 1956. Industrial arts, elementary and special education crafts, curriculum development.

Keenan, Dorothy, Professor, Ed.D., University of Illinois, 1962; 1961. Curriculum development, methods, competency based or mastery learning, consumer homemaking education.

Legacy, James, Associate Professor, Ph.D., Cornell University, 1976; 1977. Agricultural education, microcomputer use in education, curriculum development, extension education, teacher education, competency based vocational education.

Ramp, Wayne S., Professor, *Emeritus*, Ed.D., Bradley University, 1956; 1957.

Reneau, Fred W., Associate Professor, Ed.D., Virginia Polytechnic Institute and State University, 1979; 1979. Agriculture education, adult education, research supervision, curriculum development, and microcomputing.

Ridley, Samantha Sue, Assistant Professor, M.S., Southern Illinois University, 1959; 1964. Clothing and Textiles, retailing and apparel design, clothing needs of special populations, curriculum development.

Rosenbarger, Maxine, Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1970; 1973. Health occupations, rural health management and delivery, cooperative education, facilities planning, curriculum development.

St. John, Wayne L., Associate Professor, ;us *Emeritus*; Ph.D., University of Oregon, 1954; 1955.

Stadt, Ronald W., Professor, Ed.D., University of Illinois, 1962; 1967. Evaluation, assessment, curriculum, leadership characteristics, industrial occupations, cooperative education, special needs.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967. Curriculum specialist, agricultural education, cooperative vocational education, adult education, and microcomputers.

Sullivan, James A., Professor, Ed.D., West Virginia University, 1967; 1968. Industrial occupations curriculum development, cooperative education, energy and power systems, hydraulic systems.

Washburn, John S., Associate Professor and Chair, Ed.D., University of Illinois, 1977; 1986. Administration and supervision research, professional development, employment and training policy/legislative issues.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949.

Zoology

COLLEGE OF SCIENCE

Anthoney, Terence R., Associate Professor, M.D., University of Chicago, 1968; and Ph.D., University of Chicago, 1975; 1971. Ethology, neurosciences.

Beatty, Joseph A., Associate Professor, Ph.D., Harvard University, 1969; 1965. Invertebrates: arachnology.

Blackwelder, Richard E., Professor, *Emeritus*, Ph.D., Stanford University, 1934; 1958.

Brandon, Ronald A., Professor, Ph.D., University of Illinois, 1962; 1963. Herpetology, systematics of amphibians.

Burr, Brooks M., Professor, Ph.D., University of Illinois, 1977; 1977. Ichthyology.

Drickamer, Lee C., Professor and Chair, Ph.D., Michigan State University, 1970; 1987. Animal behavior.

Dyer, William G., Professor, Ph.D., Colorado State University, 1965; 1969. Parasitology: helminthology.

Englert, DuWayne C., Professor, Ph.D., Purdue University, 1964; 1963. Genetics.

Feldhamer, George A., Associate Professor and Director of Graduate Studies, Ph.D., Oregon State University, 1977; 1984. Mammalogy, wildlife ecology.

Galbreath, Edwin C., Professor, *Emeritus*, Ph.D., University of Kansas, 1951; 1957.

Garoian, George, Professor, *Emeritus*, Ph.D., University of Illinois, 1956; 1956.

George, William G., Professor, *Emeritus*, Ph.D., University of Arizona, 1961; 1964.

Heidinger, Roy C., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1970. Ecology of fishes.

King, David G., Associate Professor, Ph.D., University of California, San Diego, 1975; 1977. Invertebrate neurobiology; evolution.

Klimstra, Willard D., Distinguished Professor, *Emeritus*, Ph.D., Iowa State University, 1949; 1949.

Kohler Christopher C., Associate Professor, Ph.D., Virginia Polytechnic Institute, 1980; 1981. Ecology: management, and culture of aquatic organisms.

LeFebvre, Eugene A., Associate Professor, Ph.D., University of Minnesota, 1962; 1966. Ecology: physiological and conservation.

Lewis, William M., Professor, *Emeritus*, Ph.D., Iowa State University, 1949; 1949.

Martan, Jan, Professor, *Emeritus*, Ph.D., University of Oregon, 1963; 1964.

McKee, Michael J., Assistant Professor,

Ph.D., University of Missouri at Columbia, 1985; 1988. Toxicology.

McPherson, John E., Jr., Professor, Ph.D., Michigan State University, 1968; 1969. Entomology: insect ecology.

Muhlach, William L., Assistant Professor, Ph.D., University of Illinois at Chicago, 1986; 1987. Developmental biology.

Paparo, Anthony A., Professor, Ph.D., Fordham University, 1969; 1973. Neurobiology; electron microscopy.

Phillippi, M. Ann, Assistant Professor, Ph.D., University of Kentucky, 1984; 1985. Ecology, natural area and resource management, conservation.

Roby, Daniel D., Assistant Professor, Ph.D., University of Pennsylvania, 1986; 1988. Avian wildlife ecology, nutrition.

Seeb, James E., Assistant Professor, Ph.D., University of Washington, 1987; 1988. Fish genetics.

Sheehan, Robert J., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1984; 1986. Environmental biology of fishes.

Shepherd, Benjamin A., Professor, Ph.D., Kansas State University, 1970; 1969. Reproduction: comparative endocrinology.

Stahl, John B., Associate Professor, Ph.D., Indiana University, 1958; 1966. Limnology.

Stains, Howard J., Professor, *Emeritus*, Ph.D., University of Kansas, 1955; 1955.

Tacha, Thomas C., Assistant Professor, Ph.D., Oklahoma State University, 1981; 1983. Ecology: waterfowl and wetlands.

Waring, George H., Professor, Ph.D., Colorado State University, 1966; 1966. Behavioral ecology and applied ethology.

Wolf, Alan, Professor, Ph.D., Cornell University, 1972; 1979. Wildlife ecology, population dynamics, diseases.

School of Medicine

CARBONDALE AND SPRINGFIELD CAMPUSES

Birtch, Alan G., Professor, M.D., Johns Hopkins University, 1958; 1972.

Borkon, Eli, Professor, *Emeritus*, M.D., University of Chicago, 1937; 1971.

Brewer, Gregory, Associate Professor, Ph.D., University of California, San Diego, 1972; 1980.

Chavez, Daniel J., Associate Professor, Ph.D., Colorado State University, 1979; 1981.

Clough, Richard W., Assistant Professor, Ph.D., University of Nebraska, College of Medicine, 1983; 1987.

Colvin, Robert H., Assistant Professor Ph.D., Southern Illinois University at Carbondale, 1971; 1972.

Davidson, Glen W., Professor, Ph.D., Claremont Graduate School, 1964; 1972.

Dayringer, Richard, Associate Professor, Th.D., New Orleans Baptist Theological Seminary, 1968; 1974.

Estavillo, Jaime A., Associate Professor, Ph.D., University of California, 1970; 1975.

Folse, J. Roland, Professor, M.D., Johns Hopkins University, 1958; 1971.

Hawe, Anthony, Clinical Associate Professor, M.B., Ch.B., Liverpool University, 1959; 1971.

Hoffman, Douglas W., Assistant Professor, Ph.D., University of Connecticut, 1979; 1984.

Jackson, R. Leon, Associate Professor, Ph.D., East Texas State University, 1967; 1973.

Jackson, Robert W., Professor and *Executive Associate Dean*, Ph.D., Purdue University, 1963; 1974.

Johnson, Robert Peter, Professor, *ius Emeritus*, M.D., University of Illinois, 1950; 1972.

Kabisch, William T., Professor, Ph.D., University of Chicago, 1954; 1970.

Lacey, Ella P., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1979; 1972.

Masters, Thomas D., Clinical Professor, M.D., Rush Medical School, 1930; 1971.

Metzmaker, Charles O., Professor, M.D., University of Illinois, 1947; 1971.

Moy, Richard H., Professor, *Dean and Provost*, M.D., University of Chicago, 1957; 1970.

Parr, Earl L., Professor, Ph.D., Rockefeller University, 1968; 1981.

Pearson, Emmet F., Clinical Professor, *Emeritus*, M.D., Washington University, 1930; 1971.

Rabinovich, Sergio, Professor, M.D., University of San Marcos, 1953; 1973.

Roddick, J. W. Jr., Professor, M.D., Northwestern University, 1950; 1972.

Strano, Alfonso J., Clinical Professor, M.D., University of Texas, 1960; 1974.

Travis, Terry, Professor, M.D., Kansas University, 1964; 1972.

Zook, Elvin G., Professor, M.D., Indiana University, 1963; 1973.

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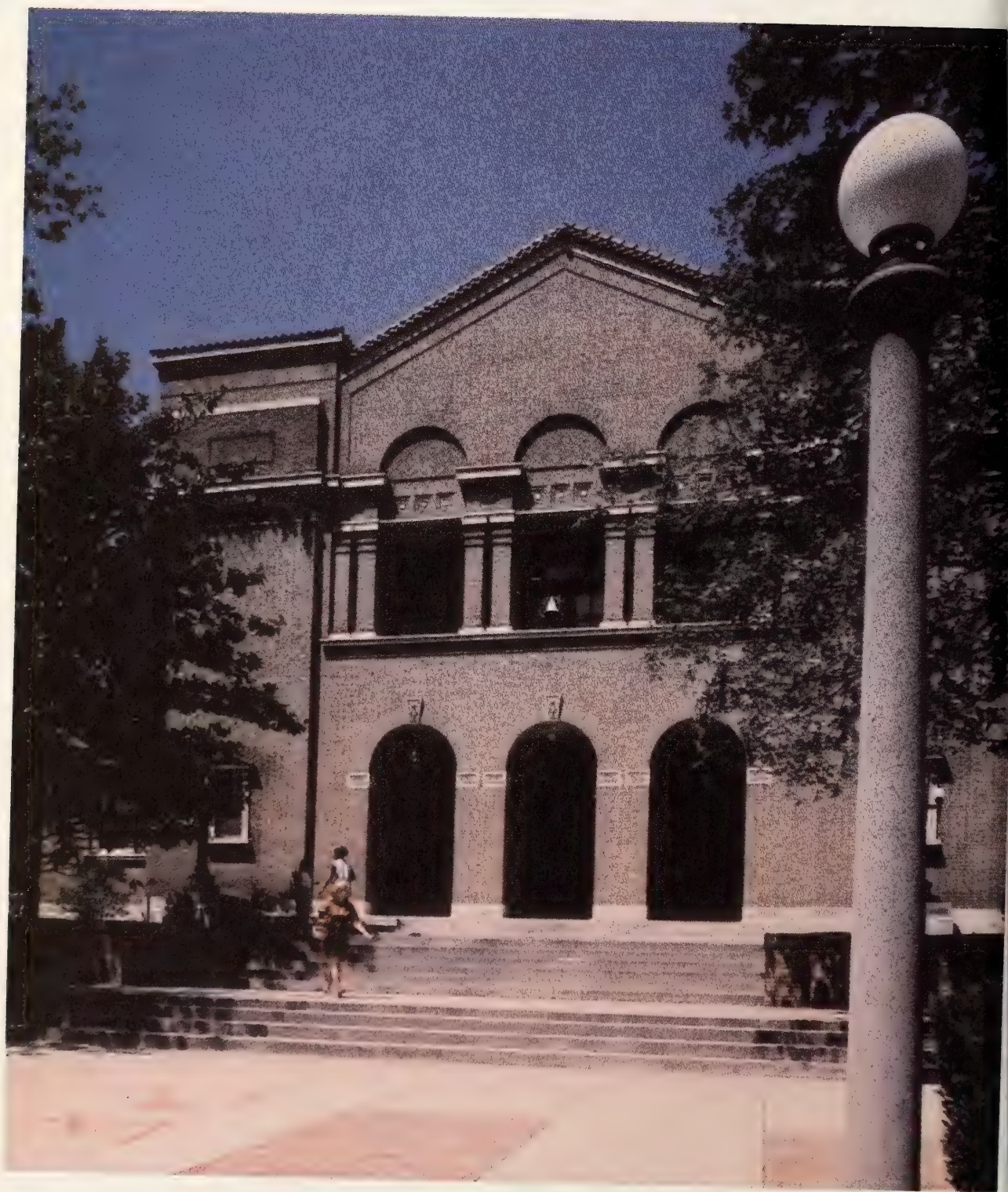
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Southern Illinois University
at Carbondale

BULLETIN

1990-91

Counselor's Advisement Catalog

Southern Illinois University at Carbondale BULLETIN

1990-91 Counselor's Advisement Catalog



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Southern Illinois University at Carbondale is an Equal Opportunity/Affirmative Action institution in accordance with Civil Rights legislation and does not discriminate on the basis of race, religion, national origin, sex, age, handicap or other factors prohibited by law in any of its educational programs, activities, admissions or employment practices. Concerns regarding this policy should be referred to the Affirmative Action Office, Southern Illinois University at Carbondale, Anthony Hall, Room 105, telephone 536-6618.

UNIVERSITY CALENDAR

Fall Semester 1989

Fall Orientation	Wednesday, August 16-Sunday, August 20
Semester Classes Begin	Monday, August 21, 8:00 a.m.
Labor Day Holiday	Monday, September 4
Thanksgiving Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., November 18-November 27
Final Examinations	Monday-Friday, December 11-15

Spring Semester 1990

Martin Luther King, Jr.'s Birthday Holiday	Monday, January 15
Semester Classes Begin	Tuesday, January 16, 8:00 a.m.
President's Day Holiday	Monday, February 19
Spring Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., March 10-19
Final Examinations	Monday-Friday, May 7-11
Commencement	Saturday, May 12 and Sunday, May 13

Summer Session 1990--Proposed

Eight Week Session Begins	Monday, June 11, 7:30 a.m.
Independence Day Holiday	Wednesday, July 4
Final Examinations	Thursday and Friday, August 2-3
Commencement	Saturday, August 4

Fall Semester 1990--Proposed

Semester Classes Begin	Monday, August 20, 8:00 a.m.
Labor Day Holiday	Monday, September 3
Fall Vacation	Saturday 12:00 noon-Thursday, 8:00 a.m., October 27-November 1
Thanksgiving Vacation	Wednesday, 10:00 p.m.-Monday, 8:00 a.m., November 21-November 26
Final Examinations	Monday-Friday, December 10-14

Spring Semester 1991--Proposed

Semester Classes Begin	Monday, January 14, 8:00 a.m.
Martin Luther King, Jr.'s Birthday Holiday	Monday, January 21
President's Day Holiday	Monday, February 18
Spring Vacation	Saturday, 12:00 noon-Monday, 8:00 a.m., March 9-18
Final Examinations	Monday-Friday, May 6-10
Commencement	Saturday, May 11 and Sunday, May 12



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Offices

Anthony Hall 5
 President's Office
 Student Center 20
 Book Store
 Cafeteria
 Information Desk
 Washington Square 31
 Housing Business Services
 Parking Division
 Woody Hall 12
 Admissions and Records
 Bursar Office (Fee Payment)
 Career Development and Testing
 Counseling Center
 Disabled Student Services
 Financial Aid
 Graduate Studies and Research
 International Education
 New Student Admission Services
 Student Services
 Undergraduate Academic Services
 University Placement Center

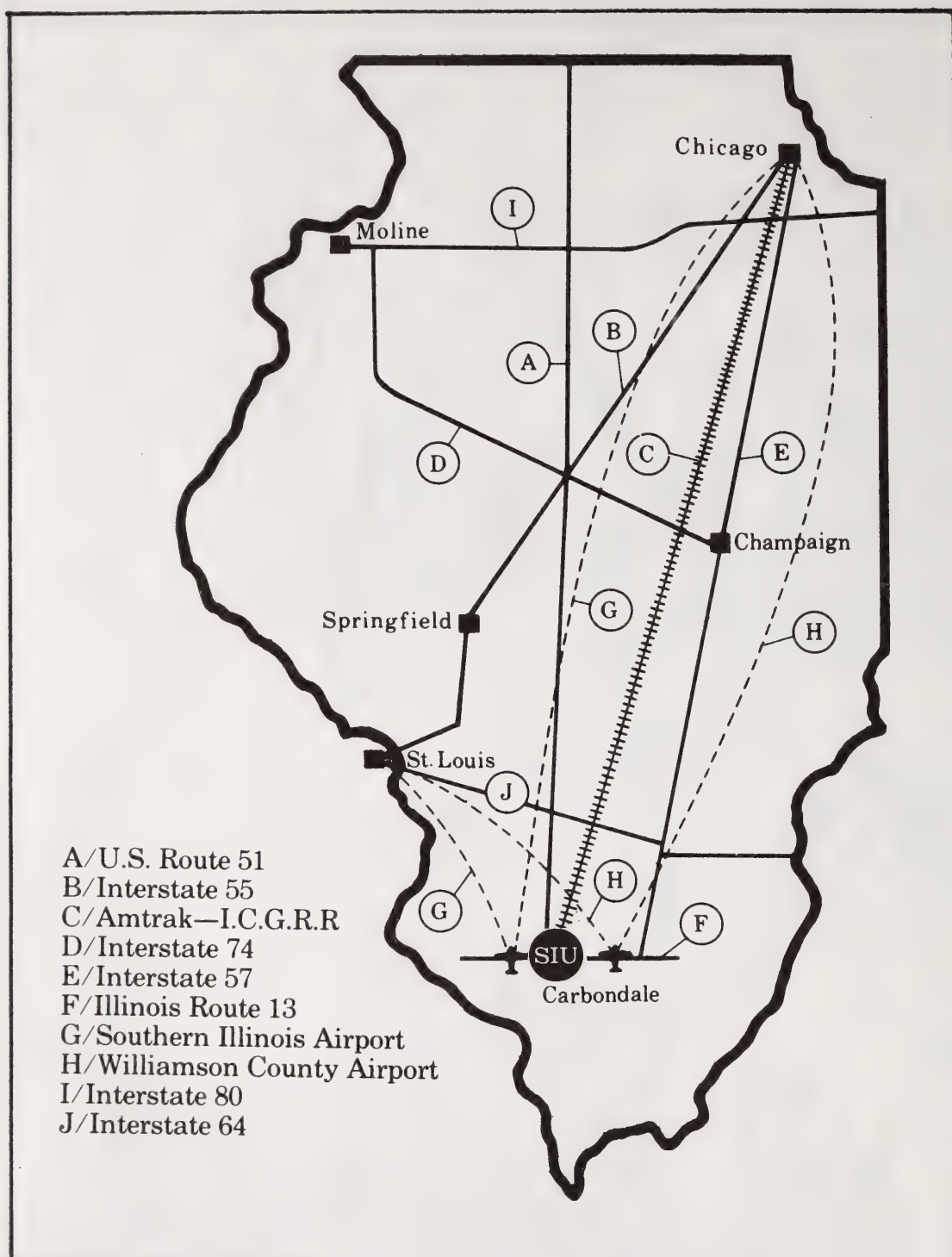
LEGEND

Old Campus

1. Old Main Site
2. Altgeld Hall (1896)
3. Wheeler Hall (1904)
4. Allyn Building (1908)
5. Anthony Hall (1913)
6. Shryock Auditorium (1918)
7. Davies Gymnasium (1925)
8. Parkinson Laboratory (1928)
9. McAndrew Stadium (1938)

New Campus

10. Pulliam Hall (1951)
12. Woody Hall (1953)
13. Lindgren Hall (1953)
14. Morris Library (1956)
15. Thompson Point Residence Halls (1957)
16. Agriculture Building (1957)
17. Quigley Hall (1959)
18. Southern Hills Family Housing (1960)
19. Greek Row (1960)
20. Student Center (1961)
21. SIU Arena (1964)
22. Wham Education Building (1964)
23. University Park Residence Halls (1965)
24. Lawson Hall (1965)
25. Communications Building (1966)
26. Health Service (1966)
27. Technology Buildings (1966)
28. Henry J. Rehn Hall (1967)
29. James W. Neckers Building (1968)
30. Evergreen Terrace Family Housing (1968)
31. Washington Square (1967)
32. Brush Towers Residence Halls (1968)
33. Life Science II (1971)
34. President's Home (1971)
35. Faner Building (1973)
36. Student Recreation Center (1977)
37. College of Technical Careers Building (1978)
38. Hiram H. Lesar Law Building (1981)



CAMPUS

The original eight-building campus with its Gothic architectural tradition is now completely surrounded by a sprawling modern 1128-acre campus with a maze of paths, impressive buildings, and attractive resident halls. Even though the original campus still serves as a focal point of study and university tradition, the prevailing design of the 255-building campus now is contemporary. Facilities vary in style, size, and purpose from a circular 10,000-seat arena, to an eight-sided multimedia instruction center, 17-story high-rise residence halls, and a permanent beach house on the 40-acre spring-fed campus lake.

Oriented to teaching and research, the University provides a balance of laboratories and classrooms which serve as satellites to the impressive 7-story Morris Library containing over 2.0 million volumes and subscribing to 14,250 current periodicals.

Additional facilities include the College of Technical Careers' Carterville campus some ten miles east, the Southern Illinois Airport three miles west, laboratories at Little Grassy Lake, and University Farms.

UNIVERSITY DIRECTORY

Listed below are the various offices, schools and colleges which are available to aid counselors, prospective students, and parents in answering questions which may not be within the scope of the various University publications. Please feel free to direct inquiries to the appropriate areas.

The general University telephone number is (618) 453-2121. The mailing address is Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

OFFICES

SIUC (University Switchboard)	(618) 453-2121
Admissions and Records	(618) 453-4381
Aerospace Studies (AF-ROTC)	(618) 453-2481
Airport, Southern Illinois	(618) 453-1147
Army Military Science (Army ROTC)	(618) 453-5786
Athletics, Intercollegiate for Men	(618) 453-5311
Athletics, Intercollegiate for Women	(618) 536-5566
Athletics, Tickets	(618) 453-5319
Bursar (payment of fees)	(618) 453-2221
Continuing Education	(618) 536-7751
Counseling Education	(618) 453-5371
Disabled Student Services	(618) 453-5738
Financial Aid Office	(618) 453-4334
Health Services	(618) 453-3311
Housing Business Services (on-campus housing)	(618) 453-2301
Housing Information Services (off-campus housing)	(618) 453-2301
International Development	(618) 453-5774
New Student Admission Services	(618) 536-4405
(Illinois residents call toll free)	(800) 642-3531
Parking Division	(618) 453-5369
Student Development	(618) 453-5714
Student Life	(618) 536-2338
Student Services	(618) 453-2374
Testing Center (CLEP, Placement/Proficiency, ACT Residual)	(618) 536-3303
University Electronic Communications	(618) 536-3325
University Honors	(618) 453-2824
University Ombudsman	(618) 453-2411

SCHOOLS AND COLLEGES

Agriculture, College of (Agriculture Building)	(618) 453-2469
Business and Administration, College of (Rehn Building)	(618) 453-3328
Communications and Fine Arts, College of (Communications Building)	(618) 453-4308
Education, College of (Wham Education Building)	(618) 453-2415
Engineering and Technology, College of (Technology Building)	(618) 453-4321
Undergraduate Academic Services (Woody Hall)	(618) 536-5506
Graduate Studies and Research (Woody Hall)	(618) 536-7791
Human Resources, College of (Quigley Building)	(618) 453-2251
Law, School of	(618) 536-7711
Liberal Arts, College of (Faner Building)	(618) 453-2466
Medicine, School of (Wheeler Building)	(618) 453-2466
Science, College of (Neckers Building)	(618) 536-6666
Technical Careers, College of (Technical Careers Building)	(618) 536-6682

GENERAL INFORMATION

ENVIRONMENT

Community: Carbondale, Illinois (pop. 26,400)
Location of State: Southern Illinois (Jackson County)
Miles from: St. Louis, 110; Chicago, 330; New York, 960; San Francisco, 2,140
Terrain: Slightly rolling (elevation 400-500 feet)
Climate: Pleasant and mild year-round temperature, mean annual temperature 57.0 degrees
Area: Historical "Little Egypt," year-round outdoor recreation, four scenic large lakes, national forest and game refuge
Transportation: Major train, plane, and bus routes: Amtrak Rail System, Prime Air, TWE; SIUC Air Institute Charter Service; highway routes Interstate 57, US 51, Illinois 13

UNIVERSITY

Name: Southern Illinois University at Carbondale
Founded: 1869
President: John C. Guyon
Campus location: Southwest corner of the community
University telephone number: (618) 453-2121
Type: Public state university of the Southern Illinois University system
Student body: Co-ed
Curriculum: Undergraduate, graduate, and professional
Calendar: Early semester (fall and spring), summer session
Campuses: Carbondale; College of Technical Careers' Carterville Campus; Southern Illinois Airport; outdoor laboratories; university farms
Acreage: 7,253; on-campus, 1128 acres
Campus buildings: 255
Colors: Maroon and white
Mascot: Saluki (Egyptian hunting dog)

STUDENT DATA

Enrollment, Fall 1988: 24,227
Undergraduate, 20,126; Graduate, 3,508; Professional, 593;
Men, 14,863; Women, 9,364
Residency: Illinois, 19,533 (80%); Out-of-state, 3,052 (13%), 97 other countries, 1,642 (7%)

PERSONNEL, 1988

Percentage full-time faculty with doctorate: 65%
Undergraduate student/faculty ratio: 18:1

DEGREES

Undergraduate: Associate: A.A.S.; Baccalaureate: B.A., B.S., B. Mus., B.F.A.
Graduate: M.Acc., M.S., M.B.A., M.F.A., M. Mus., M.P.A., M.S., M.S. Ed.;
Specialist Degree (6 yr); Ph.D., Rh.D., D.B.A., M.D., J.D.

ACCREDITATIONS AND AFFILIATIONS

Accreditation Board for Engineering and Technology (ABET)
Accreditation Council of the American Assembly of Collegiate Schools of Business
Accrediting Council of Education in Journalism and Mass Communications
American Association for Accreditation of Laboratory Animal Care
American Association of Airport Executives (AAAE)
American Association of Museums
American Bar Association
American Board of Examiners in Speech Pathology and Audiology
American Board of Funeral Service Education
American Chemical Society
American Dietetic Association
American Institute of Architects
American Institute of Professional Geologists
American Library Association
American Physical Therapy Association
American Psychological Association
Association of American Law Schools
The Association of American Publishers
The Association of American University Presses
Association of Collegiate Schools of Architecture
Association of Research Libraries
Association of University Programs in Health Administration (AUPHA)
Commission on Accreditation of Rehabilitation Institute
Commission on Dental Accreditation of the American Dental Association
Committee on Allied Health Accreditation (CAHEA) of the American Medical Association and
the Joint Review Committee for Radiologic Technology Education
CAHEA and the Joint Review Committee for Respiratory Therapy Education
Community Development Society
Connecticut State Board of Education
Council for Accreditation for Counseling and Related Educational Programs (CACREP)
Council on International Education Exchange (CIEE)
Council on Rehabilitation Education
Council on Social Work Education
Federal Aviation Administration
Foundation for Interior Design Education Research (FIDER)
Honors Council of the Illinois Region (HCIR)
Illinois Certification Boards, Inc.
Illinois Department of Registration and Education
Illinois State Board of Education
Liaison Committee on Medical Education of the American Medical Association and the
Association of American Medical Colleges
National Academy of Early Childhood Programs Sponsored by the National Association
for the Education of Young Children
National Association of Industrial Technology (NAIT)
National Association of Schools of Art and Design
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration
National Athletic Trainers Association (NATA)
National Collegiate Honors Council
National Council for Accreditation of Teacher Education
National Fire Protection Association
National Institute for Automotive Service Excellence
National League for Nursing
National Recreation and Parks Association (National Accreditation Council)
National Shorthand Reporters Association
North Central Association of Colleges and Schools
Photo/Marketing Association International
Service Members Opportunity Colleges
Society of American Foresters (SAF)
University Council for Vocational Education
Upper Midwest Honors Council
Western Association of Schools and Colleges

UNDERGRADUATE CURRICULA AND COURSES

Accounting	Fire Science Management
Administration of Justice	Food and Nutrition
Advanced Technical Studies	Foreign Language and International Trade
African Studies ¹	Forestry
Aging Studies ¹	French
Agribusiness Economics	Geography
Agriculture, General	Geology
Allied Health Careers Specialties*	German
Animal Science	Greek ^{1,3}
Anthropology	Health Care Management
Aquatics ^{1,4}	Health Education
Architectural Technology*	History
Art	Industrial Technology
Asian Studies	Interior Design
Athletic Training ^{1,4}	Japanese ^{1,3}
Automotive Technology*	Journalism
Aviation Flight*	Language Arts (English and Reading)
Aviation Maintenance Technology*	Latin ^{1,3}
Aviation Management	Law Enforcement*
Avionics Technology*	Linguistics
Biological Sciences	Management
Black American Studies ¹	Marketing
Botany	Mathematics
Business and Administration	Mechanical Engineering
Business Economics	Microbiology
Chemistry	Mining Engineering
Child and Family Services ¹	Mortuary Science and Funeral Service*
Chinese ^{1,3}	Museum Studies ¹
Cinema and Photography	Music
Civil Engineering	Office Systems and Specialties*
Classical Civilization ¹	Paralegal Studies for Legal Assistants
Classics	Philosophy
Clothing and Textiles	Photographic Production Technology*
Coaching ^{1,4}	Physical Education
Commercial Graphics - Design*	Physical Therapist Assistant*
Communication Disorders and Sciences	Physics
Community Development ¹	Physiology
Comparative Literature ¹	Plant and Soil Science
Computer Information Processing*	Political Science
Computer Science	Psychology
Construction Technology*	Radio-Television
Consumer Economics and Family Management	Radiologic Technology*
Consumer Studies ¹	Recreation
Dental Hygiene*	Religious Studies
Dental Technology*	Respiratory Therapy Technology*
Design	Russian
Early Childhood	Social Studies
Earth Science ¹	Social Work
East Asian Civilization ^{1,3}	Sociology
Economics	Spanish
Educational Media ¹	Special Major
Electrical Engineering	Special Education
Electronics Management	Speech Communication
Electronics Technology*	Theater
Elementary Education	Tool and Manufacturing Technology*
Engineering Technology	Uncommon Languages ^{1,2}
English	University Studies
Equine Studies ¹	Vocational Education Studies
Finance	Women's Studies ¹
	Zoology
 <u>Pre-Professional Programs</u> ⁵	
Pre-Dentistry	Pre-Osteopathy
Pre-Law	Pre-Pharmacy
Pre-Medicine	Pre-Physical Therapy
Pre-Nursing	Pre-Podiatry
Pre-Optometry	Pre-Veterinary Science

*Associate degree curriculum.

¹Minor only.

²Described under Linguistics.

³Described under Foreign Languages.

⁴Described under Physical Education.

⁵Preparatory to applying to professional schools. These are non-degree programs.

APPLICATION REQUEST: ADMISSION PROCEDURES

To request undergraduate admission application materials, write to:

New Student Admission Services
Southern Illinois University at Carbondale
Carbondale, IL 62901-4710

or call toll free (in Illinois) 800-642-3531. Direct, call (618) 536-4405.

ACT/APP

Beginning freshmen can simplify their admission to SIUC by indicating at the time they write the American College Test (ACT) that their test scores should be sent to Southern Illinois University at Carbondale (college code 1144). Students who take the ACT on a national test date and send their scores to SIUC do not have to initiate the application for admission. Once we are in receipt of a student's test scores, we will contact that student automatically. Students who score 19 or higher on the ACT will receive a preprinted application called ACT/APP. To finalize admission, the ACT/APP must be returned to us along with an official copy of the student's high school transcript.

Beginning freshmen who have sent ACT scores to SIUC and who earned a composite score of less than 19 but greater than 16 will be sent an undergraduate admission application. This document must be completed and returned to SIUC's Admissions Office with a copy of the student's high school transcript.

All students who do not send their ACT scores as a result of a national test date must apply through the traditional application for admission process.

REQUIRED MATERIALS AND PROCEDURES

NEW FRESHMEN APPLICANTS

Freshmen may be considered for admission any time following their sixth semester in high school. Prospective high school students should submit:

1. Completed and signed undergraduate admission application form or the ACT/APP form.
2. Two copies of the high school transcript signed with school seal, class rank, class size, and if available, ACT scores.
3. Official ACT scores (from Iowa City).

G.E.D. APPLICANTS

Eligible G.E.D. applicants will be considered for admission upon submission of the following materials.

1. Completed and signed undergraduate admission application form.
2. High school transcript.
3. Official G.E.D. test results.
4. Official ACT scores (required of students less than 21 years of age).

NOTE: Students who did not request the results of the ACT examination be sent to SIUC (code 1144) at the time they registered for the exam must request that a supplemental score report be sent to SIUC by contacting ACT, P.O. Box 451, Iowa City, Iowa 52240.

TRANSFER STUDENTS

Transfer students may be considered for admission as early as one year in advance of their intended enrollment at SIUC or as late as the beginning of each semester. Transfer students who will have at least 26 semester hours or 39 quarter hours prior to entering SIUC will be considered for admission upon submission of the following materials:

1. Completed and signed undergraduate admission application form.
2. Official transcripts from each institution attended after high school.

Transfer students who will have less than 26 semester hours or 39 quarter hours prior to actual SIUC enrollment may also be considered for admission as early as one year in advance provided they qualify for admission as beginning freshmen and have the required minimum grade point average. Students will be considered for admission upon submission of the following materials:

1. Completed and signed undergraduate admission application form.
2. Official transcript from each institution attended after high school.
3. High school transcript (2 copies).
4. Official ACT scores.

All students transferring from a non-regionally accredited institution must also submit a high school record and ACT scores regardless of hours completed, degrees earned, or grade point average. All students are required to submit a high school record; those who did not graduate from high school should submit results of G.E.D. examination and their incomplete high school record.

ADMISSION POLICIES, REQUIREMENTS

ADMISSION OF FRESHMEN

To be eligible for admission, an applicant must be a graduate of a recognized high school. Graduates of non-recognized high schools may be admitted to the University by completing successfully the General Educational Development (GED) Test or an approved entrance examination.

All admissions granted students while in high school are subject to the completion of high school work and graduation.

If eligible for direct entry into a desired academic unit and major, students entering the University as freshmen are enrolled in the academic unit within the University that offers the academic program they indicate they plan to pursue. Students who are undecided as to the course of study they want to follow are enrolled in Undergraduate Academic Services as a pre-major student.

Some majors allow entry only in the fall. Some programs require screening and materials beyond those required for admission into the University and some programs have admission standards higher than those required to enter the University.

ADMISSION OF FRESHMEN TO BACCALAUREATE PROGRAMS

Also refer to the section on High School Subject Pattern Requirements.

Applicants seeking admission to a baccalaureate program who have an ACT composite score of 19 or higher (SAT 810) are eligible for admission any semester. In addition, high school graduates who rank in the upper half of their graduating class and who score a minimum ACT composite of 16 or higher (SAT 720) are also eligible for admission any semester.

A limited number of applicants who do not meet the University's entrance requirements may be granted admission to the fall semester through a special admission program, the Center for Basic Skills. All applicants who are not admissible by the above requirements will have their applications reviewed for admission to the special program.

ADMISSION OF FRESHMEN TO ASSOCIATE DEGREE PROGRAMS

Also refer to the section on High School Subject Pattern Requirements.

Students seeking admission to an associate degree program in the College of Technical Careers can qualify for admission any semester if they rank in the upper two thirds of their high school graduating class or score a minimum ACT composite score of 16 or higher (SAT 720).

Students seeking admission to Aviation Flight, Commercial Graphics-Design, Dental Hygiene, Dental Technology, Mortuary Science and Funeral Service, Physical Therapist Assistant, Radiologic Technology or Respiratory Therapy programs must meet University entrance requirements as well as those of the specific programs. Admission to SIUC does NOT insure acceptance into one of the above two year associate degree programs. All students will receive further information about entry into one of these programs after being granted admission to the University.

Students may be admitted only for the fall semester to associate degree programs in Architectural Technology, Dental Hygiene, Physical Therapist Assistant, Commercial Graphics-Design, Dental Technology, Radiologic Technology and Respiratory Therapy. Aviation Flight students must initially satisfy baccalaureate program admission requirements in order to be admitted to Pre-Aviation Flight and receive further screening for direct program entry.

ADMISSION OF G.E.D. APPLICANTS TO UNIVERSITY PROGRAMS

Non-high school graduates may be considered for admission by satisfactorily passing the G.E.D. examination and submitting all required materials. Students who are less than 21 years of age are also required to achieve a minimum ACT score of 16 for admission to four-year programs. Course pattern requirements will also be required for applicants less than 21 years of age to associate and baccalaureate programs.

ADMISSION OF TRANSFER STUDENTS

Applicants are considered to be transfer students when they present any amount of graded work for transfer consideration which was earned after high school graduation; otherwise, they are considered for admission as new freshmen.

In the event a transfer students' grade point average cannot be determined, his/her admission may require, in addition to a review of their college performance, standardized examinations and secondary school records.

Transfer students who have been suspended for any reason other than academic failure must be cleared by SIUC's Student Life Office before admission will be granted by the Director of Admissions.

Some majors allow entry only in the fall. Some programs require screening and materials beyond those required for admission into the University and some programs have admission standards higher than those required to enter the University.

Transfer students, if eligible, will be admitted directly to the academic unit in which their major field of study is offered. Students who are undecided about their major field of study will be admitted to the Undergraduate Academic Services division as pre-major students.

Transfer students who have completed a minimum of one year of work (26 semester hours or 39 quarter hours of credit) can be considered for admission one year in advance of their date of matriculation. Students who are enrolled in a collegiate program for the first time and wish to transfer upon completion of their first term may do so if they meet the University's admission requirements for beginning freshmen. Admission may also be granted one year in advance to students who are in their first term of a collegiate program and qualify for admission as beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will maintain an overall 'C' average and be eligible to continue at the last school attended. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission will have their initial admission withdrawn.

ADMISSION OF TRANSFER STUDENTS TO BACCALAUREATE PROGRAMS

Students who have an overall 'C' average as computed by SIUC (2.0 on a 4.0 scale, all institutions), and are eligible to continue their enrollment at the last institution attended are eligible to be considered for admission for any semester. If a student is seeking admission with fewer than 26 semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student. This student should also refer to the section on High School Subject Pattern Requirements.

Students who graduate with an associate degree in a baccalaureate-oriented program from an Illinois two-year institution may enter Southern Illinois University at Carbondale any semester without regard to their average provided they have not taken additional college work since graduation. If they have completed additional work, their admission will be considered on the basis of the University's regular transfer admission standards.

A student who has completed a two-year or equivalent program with a 'C' average in an institution which is not accredited by one of the regional accrediting associations will be admitted only if the institution is one recognized by NATTS, AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. Students who have attended a non-regionally accredited institution and who have not completed two-year or equivalent programs or have less than a 'C' average will be considered for admission as entering freshmen.

Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional work can be completed successfully. Tangible evidence might include: 1) an interruption of schooling for one or more years; 2) military experience; 3) work experience; and 4) previous academic performance.

ADMISSION OF TRANSFER STUDENTS TO ASSOCIATE DEGREE PROGRAMS

Students who have an overall 'C' average (2.0 on a 4.0 scale, all institutions), and are eligible to continue their enrollment at the last institution attended will be considered for admission for any semester. If a student is seeking admission with fewer than 26 semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student for unconditional acceptance. This student should also refer to the section on High School Subject Pattern Requirements.

Students seeking admission to Aviation Flight, Commercial Graphics-Design, Dental Hygiene, Dental Technology, Mortuary Science and Funeral Service, Physical Therapist Assistant, Radiologic Technology or Respiratory Therapy programs must meet University entrance requirements as well as those of the specific programs. Admission to SIUC does NOT insure acceptance into one of the above two year associate degree programs. All students will receive further information about entry into one of these programs after being granted admission to the University.

Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional work can be completed successfully. Tangible evidence might include: 1) an interruption of schooling for one or more years; 2) military experience; 3) work experience; and 4) previous academic performance.

A student who is admitted to an associate degree program as a transfer student and then decides at a later date to enter a four-year program must meet the University's baccalaureate admission requirements at the time of transfer.

Students may be admitted only for the fall semester to associate degree programs in Architectural Technology, Dental Hygiene, Physical Therapist Assistant, Commercial Graphics-Design, Dental Technology, Radiologic Technology and Respiratory Therapy. Aviation Flight students must initially satisfy baccalaureate program admission requirements in order to be admitted to Pre-Aviation Flight and receive further screening for direct program entry.

HIGH SCHOOL SUBJECT PATTERN REQUIREMENTS

Effective with the 1990 summer semester, new freshmen students and transfer students with less than 26 semester or 39 quarter hours must also satisfactorily complete course pattern requirements or enter under a "provisional" admission status.

Transfer students with more than 26 semester or 39 quarter hours, students 21 years or older, international students, veterans and applicants on active duty in the military, if admitted, are exempt from the high school subject pattern requirements. Also exempt are students whose class rank places them in the upper 25th percentile and have earned an ACT composite score at the 75th percentile or higher based on college bound norms. Currently, this ACT composite score is 24.

Course Pattern Requirements

	For Associate Degree Entry	For Bachelor Degree Entry	For Bachelor Degree Entry (1993)
English	3 yrs.	3 yrs.	4 yrs.
Mathematics	2 yrs.	3 yrs.	3 yrs.
Lab Science	1 yr.	2 yrs.	3 yrs.
Social Science	2 yrs.	2 yrs.	3 yrs.
Electives (Art, Music, Foreign Language, Voc. Education)	N/A	1 yr.	2 yrs.

NOTE: One year is defined as 1.0 unit; 0.5 = 1/2 year; 0.33 = 1/3 year and 0.25 = 1/4 year.

Course Pattern Definitions

English: Coursework must emphasize written and oral communication and literature. General reading, mass communications, radio/television/film and theater are typically not acceptable.

Mathematics: Coursework including introductory through advanced algebra, geometry, trigonometry or fundamentals of computer programming is acceptable. Pre-algebra, business math, career or consumer math are typically not acceptable.

Lab Science: Coursework must be laboratory science including biology, chemistry, physics, earth science or other college preparatory science. General science courses are typically not acceptable.

Social Science: Coursework must emphasize history and government. Anthropology, economics, geography, political science, psychology and sociology are also acceptable.

Electives: Coursework in a foreign language, music, art or vocational education is acceptable.

Course Pattern Deficiencies

Students admitted provisionally due to a course pattern deficiency will be required to rectify their deficiency in the following manner:

English

- * Earn an ACT English subscore at the 60th percentile (currently equals 21) or complete a 100-level GEC course at SIUC taught by the English faculty, or
- * Earn a score of 540 on the CLEP English Composition with Essay Examination, or
- * Earn a grade of 3, 4 or 5 in English through the High School Advanced Placement Program.

Mathematics

- * Earn an ACT mathematics subscore at the 60th percentile (currently equals 21), or
- * Earn an acceptable score on SIUC's Math Placement Test or complete GED 106 (Elementary Algebra) at SIUC, or
- * Earn a score of 580 or higher on the CLEP Mathematics Examination, or
- * Earn a grade of 3, 4 or 5 in mathematics or computer science through the High School Advanced Placement Program.

Lab Science

- * Earn an ACT natural science (or Enhanced ACT-Science) subscore at the 60th percentile (currently equals 24) or complete a 100-level GEA course at SIUC, or
- * Earn a score of 520 or higher on the CLEP Natural Sciences Examination, or
- * Earn a grade of 3, 4 or 5 in either physics, chemistry or biology through the High School Advanced Placement Program.

Social Science

- * Earn an ACT social science (or Enhanced ACT-Reading) subscore at the 60th percentile (currently equals 21) or complete a 100-level GEB course at SIUC, or
- * Earn a score of 520 or higher on the CLEP social science and history examination, or
- * Earn a grade of 3, 4 or 5 in either American History, European History, American Government or Comparative Government and Politics through the High School Advanced Placement Program.

Electives

- * Complete a 100-level GEC course at SIUC or complete a one year (two course) sequence in a foreign language, or
- * Earn a score of 520 or higher on the CLEP Humanities Examination, or
- * Earn a grade of 3, 4 or 5 in either foreign language, music or art through the High School Advanced Placement Program.

NOTE: A deficiency may also be corrected at another institution prior to transfer to SIUC. It should be understood that coursework used to fulfill a deficiency cannot be used to meet General Education requirements but may be used as elective credits. Where earned C.L.E.P. or Advanced Placement credit equates to more than one course, credit for that second course may be counted as General Education if applicable.

ADMISSION OF SPECIAL CATEGORIES OF STUDENTS

Several types of students are given special consideration when seeking admission to the University. These are described below:

Second Chance Program

The Second Chance Program is designed to allow some former Southern Illinois University at Carbondale students who had a poor scholastic performance in their initial enrollment a second opportunity to demonstrate their academic capabilities. The program permits students in selected majors to establish a new grade point average calculated from their first semester of readmission. Not all University departments are participating in the Second Chance Program. For a listing of those departments not participating, refer to the Undergraduate Catalog.

Program Eligibility Requirements. Former Southern Illinois University at Carbondale students who meet one of the following qualifications may apply for entrance to the Second Chance Program.

1. Adult reentering students who are at least 24 years of age and who previously earned fewer than 60 semester hours at SIUC with less than a 2.0 grade point average. In addition, applicants who have attended any post secondary institution, college, or university including SIUC in the Second Chance Program must have earned a 2.0 cumulative grade point average for collegiate work taken during that period.
2. Veterans who have completed at least one year of active military service after having previously completed fewer than 60 semester hours at SIUC with less than a 2.0 grade point average. SIUC must be the first institution attended since discharge or separation.
3. Community college graduates who have previously earned less than 60 semester hours from SIUC with a grade point average below 2.0 prior to completing an associate degree from a regionally accredited institution. SIUC must be the first institution attended since earning the associate degree.

Admission of Veterans

Veterans are admissible in good standing regardless of their previous academic records provided they have completed no college work since military separation or the college work they have completed since separation/discharge is of 'C' quality or better. It is assumed a veteran has graduated from high school or has earned the GED equivalency certificate. A veteran is required to submit all of the necessary academic records to the Admissions Office before his or her application for admission can be processed.

Basic Skills

The University operates a program in which educationally and socially disadvantaged students are admitted to the University each fall and spring. All four-year applicants who do not meet established admission requirements will have their applications reviewed for consideration to this program. Those students whose academic records show potential for successfully completing a collegiate program as a result of receiving special assistance may be offered admission to the University.

Admission of Adults as Unclassified Students

Adults who have never enrolled in an institution of higher education may enroll in select courses as non-degree students without submitting all of the academic records required of a regularly admitted student. Students in this category must be high school graduates or have passed the GED Test. Applicants interested in seeking admission as an unclassified student are encouraged to write to the Office of Admissions and Records.

Evening and Weekend Program

Carbondale area residents may take advantage of the University's evening (after 4:00 p.m.) and weekend credit course offerings through the Evening and Weekend Program offered by the Division of Continuing Education. The application, admission, and registration process is streamlined for such students. Students may enroll for up to a maximum of eight semester hours credit each semester. A reduced fee structure is available. Interested students should contact the SIUC Division of Continuing Education directly at 618-536-7751.

ADMISSION OF INTERNATIONAL STUDENTS (General Requirements)

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are selected upon the basis of their former academic work and the students' financial resources for support during the normal period of time required to reach the objectives of their studies.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from the TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed less than two years study in a United States high school, (3) have completed less than two years (60 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary education in a country where English is the native language are required to submit scores from either the American College Test or the Scholastic Aptitude Test.

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination. Immigrants who have completed at least two years of study in a United States high school, have earned sixty semester hours in a United States college or university, or have completed their secondary education in a country in which English is the native language students must also submit a photocopy of their green card with the application for admission.

International students whose secondary school and college records are acceptable for admission purposes must also submit TOEFL scores. Students whose TOEFL score is 525 or higher will be granted unconditional admission. Applicants whose TOEFL scores are below 525 will be admitted contingent upon completion of an institutional TOEFL administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language at their expense. Sponsoring agencies which enroll international students will be charged an administrative fee of \$100.00 per student per semester.

International students interested in making application to SIUC should address their inquiries to the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

ADMISSION TO THE TEACHER EDUCATION PROGRAM

Students are eligible to make formal application to the program with:

1. A minimum of 30 semester hours of completed work.
2. An overall grade point average of at least 2.50 (4.0 scale) in all college work.
3. Completion of GED 101 and GED 102, and one additional English course (GEC or English department) with a grade of 'C' or better.
4. An ACT score of 20 or SAT of 840. Conditional admission may be granted to students who do not meet ACT or SAT standards on the basis of the following: completion with a minimum grade of 'C' since entering 9th grade including work taken in college of:
 - a. four years of English and communication skills. Each three semester hour college composition or writing course equates to one year of high school English.
 - b. two years of mathematics sufficient to include the course content of Algebra I. Computer science courses may not be used to satisfy any part of this requirement.
 - c. two years of science. Courses from either the physical or biological sciences will be accepted toward this requirement.
 - d. two years of social studies.--Conditional admissions are reviewed November 1st, April 1st, and on July 1st.
5. Three letters of recommendation from college or university faculty (transfer students may bring letters of recommendation from school(s) previously attended).

Applications must be submitted in person and must be accompanied by verification that all pre-requisites have been met. Students are responsible for submitting high school transcripts to the Office of Teacher Education. Application forms as well as information about the teacher education program are available from the Office of Teacher Education in the Wham Building, room 135.

If a student's application is approved after being reviewed by the Coordinator of Teacher Education Services, the student is issued a membership card which entitles the student to begin work in the basic professional education courses which are prerequisite to the professional semester of student teaching. At the end of the first semester of membership, the department offering the student's major is requested to submit a recommendation as to whether or not the student should be retained in the program. Criteria for this recommendation are available from the department or the student's adviser. Failure to obtain approval prohibits the student from continuing with the professional education courses and could lead to suspension from the program. In order to remain in the program and complete the requirements for graduation and teacher certification, the student must attain a 2.50 grade point average in the major and receive

departmental approval. Both of these requirements must be met before final clearance can be given for a student teaching assignment. Students who are not able to meet the criteria of the teacher education program or their major department will be counseled about alternative programs.

ADMISSION TO MAJORS IN THE COLLEGE OF BUSINESS AND ADMINISTRATION

ADMISSION POLICY: The following admission policy for the College of Business and Administration took effect Summer, 1986, and applies to all students who enroll at Southern Illinois University at Carbondale after May, 1986.

Freshmen: Beginning freshmen must rank in the top ten percent of their high school graduating class and have an ACT standard composite score of 21 or rank in the top half of their high school graduating class and have an ACT standard composite score of at least 24 to be eligible for immediate admission to majors offered by the College of Business and Administration. New freshmen who do not meet these requirements but do fulfill regular Southern Illinois University at Carbondale admission requirements will be admitted to the University with a pre-business major classification.

Transfer Students: Transfer students who have completed fewer than 26 semester hours must meet the admission requirements of beginning freshmen and must have earned a collegiate grade point average of 3.00 (4.00 scale) to be admitted directly to a major in the College of Business and Administration. Students who have completed more than 26 hours, but fewer than 56 hours must have earned a grade point average of 3.00 to be admitted directly to a major in the College of Business and Administration. Students who have completed 56 hours or more must have earned an overall grade point average of 2.20 and completed all nine of the College of Business and Administration's retention courses with an average of 2.00 in those courses to be admitted to a major in the College of Business and Administration. It is also necessary that seven of the retention courses be completed with a grade of 'C' or better. (See College of Business Retention Policy). Transfer students who do not meet these requirements, but do meet regular admission requirements will be admitted to the University with a pre-business classification.

A student's grade point average is determined by calculating all collegiate grades earned including repeated courses. All and only SIUC grades of A, B, C, D and F are included in the SIUC grade point average.

Southern Illinois University at Carbondale Students: Students who are currently enrolled or were previously enrolled at SIUC in a major outside the College of Business and Administration may request admission to a business program. They may be admitted to degree programs in business if they meet the requirements for beginning freshmen or transfer students. Students who do not meet new freshmen or transfer requirements may be granted admission with a pre-business classification provided they have an overall 2.0 average at Southern Illinois University at Carbondale.

Pre-Business Classification: Those beginning freshmen and transfer students admitted to the University with a pre-business classification may request admission to a College of Business and Administration degree program when:

1. They have earned an overall average of 2.20;
2. They have completed at least 42 semester hours;
3. They have completed six of the College of Business and Administration's nine retention courses with an average of 2.00 in those courses. Seven of the courses must be completed with a grade of 'C' or better.

Pre-business students enrolled at SIUC requesting admission to a degree program must complete an application for admission to the College of Business and Administration major. Students applying for spring must apply by October 1 of the preceding year, for summer by March 1 preceding the summer, and for fall by March 1 preceding the fall.

Because interest in business classes continues to be exceedingly high, it may be necessary to close admission to selected business majors without advance notice.

Admission to Majors in the College of Business and Administration (International Students)

International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT scores and class rank are not generally submitted by international students, students do submit credentials which reflect their achievements in English and mathematics. Therefore, beginning freshmen and transfer students with less than 26 semester hours will be required to submit records which reflect above average achievements in these disciplines in order to be admitted to a business and administration program. Transfer students who have earned 26 semester hours or more of transfer credit will be required to have a 3.0 or comparable grade point average. International students will be required to comply with the retention policy of the College of Business and Administration.

Students who meet minimum University admission requirements but do not meet those requirements for entrance to a business program will be granted admission to the College with a pre-business classification and be advised as to an appropriate program during the first year. These students must satisfy the requirements previous described for native students in order to transfer to a business major.

ADMISSION TO ENGINEERING PROGRAM OPTIONS

First-Time Admission to Engineering (Freshmen):

- A. A student may be admitted to one of the engineering programs unconditionally if he/she fulfills all of the University admission requirements, has an ACT composite score of 23 or greater, and ranks in the upper half of his/her high school graduate class.
- B. Students with an ACT composite score of 19 to 23 must rank in the upper 25% of their graduating class.
- C. In addition to A or B above, all incoming freshmen are required to have completed:
 - 3 years of English (4 years are recommended)
 - 3 1/2 years of Mathematics
 - a. 2 years of Algebra
 - b. 1 year of Geometry
 - c. 1/2 year of Trigonometry
 - 2 years of Science (one year of Chemistry and one year of Physics are recommended)
- D. Students who do not fulfill the above admission criteria (A,B,C) will be placed in a "Pre-Engineering" classification as described under the heading "Pre-Engineering." Students who satisfy items A and B but do not satisfy item C are automatically placed in the normal "Engineering" category upon completion of the C requirement. Student not fulfilling A, B and C may also be admitted to a non-engineering program and later apply for transfer into one of the engineering programs following completion of the 26 semester hour requirement as described under the heading "Pre-Engineering."

Admission to Engineering (Transfer Students)

- A. First-time transfer students (from another university, a community college or another SIUC academic unit) must have an overall grade point average of at least 2.4* and at least 26 semester hours of transfer credit. Students without 26 semester hours of transfer credit will fall under freshmen admission requirements.
- B. First-time transfer students with a grade point average between 2.0 and 2.4* and who are interested in transferring into one of the engineering programs will be admitted to Pre-Engineering. Transfer students with a grade point average between 2.0 and 2.4* may in special cases be accepted by the department but only upon an individual basis depending upon the ability of the department to accommodate the student demand.
- C. No student whose grade point average is below 2.0 will be admitted to Engineering or Pre-Engineering.

Pre-Engineering

Students who have been placed in a pre-engineering classification because they have not completed the high school courses required for direct admission to an engineering program will be transferred to an engineering program when the high school prerequisite courses have been satisfied by taking courses at the University.

Students admitted with a pre-engineering classification may request transfer to an engineering program after they have earned at least 26 semester hours at the University with a grade point average of 2.40* or greater. In addition, at least 12 of the 26 hours must have been earned in engineering, mathematics, and prerequisite science courses which are required for graduation from the engineering program at the University.

Students in the pre-engineering classification who have completed 26 to 60 semester hours and have a 2.0-2.39 grade point average may, in special cases, be admitted to an engineering program in one of the engineering departments. Such student may not transfer to another engineering department without approval of that department chairperson.

Pre-engineering students who have earned less than a 2.40 average after completing 60 or more semester hours and who cannot be admitted by a department as a special case will be transferred to Undergraduate Academic Services or may seek entrance to another collegiate unit provided their SIUC grade point average is 2.0. Students transferred from the pre-engineering classification may seek readmission to the College of Engineering and Technology only after they have attained an overall grade point average of 2.40*.

Students who are classified as pre-engineering majors cannot register for 300 and 400 level courses offered by any of the engineering departments.

Admission to Engineering (International Students)

International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT scores and class rank are not generally submitted by international students, students do submit credentials which reflect their achievements in subject areas such as English, mathematics and science. Therefore, beginning freshmen and transfer students with less than 26 semester hours will be required to submit records which reflect above average achievements in these disciplines in order to be admitted to an engineering program. Transfer students who have earned 26 semester hours or more of transfer credit will be required to have a 2.4 or comparable grade point average. International students will be required to comply with the retention policy of the College of Engineering and Technology.

Students who meet minimum University admission requirements but do not meet those requirements for entrance to an engineering program will be granted admission to the College with a pre-engineering classification and be advised as to an appropriate program during the first year. These students must satisfy the requirements previously described for native students in order to transfer to an engineering major.

Engineering (Special Note)

- * For a period of time, particular Engineering departments may establish a transfer grade point average greater than 2.4. Those students seeking admission into Electrical Engineering at this time should contact the College Advisement Office to determine the transfer grade point average for entry into this program.

Because interest in engineering classes continues to be exceedingly high, it may be necessary to close admission to selected engineering majors without advance notice.

ADMISSION TO THE RADIO-TELEVISION PROGRAM

To be admitted to the Department of Radio-Television, incoming freshmen must rank in the top one-fourth of their high school graduating class and have an entrance examination score at the 50th percentile (currently ACT equals 19) or higher, or rank in the top one-half of their graduating class and have an entrance examination score at the 65th percentile (currently ACT equals 21) or higher.

Transfer students seeking admission from another institution or from another program at Southern Illinois University at Carbondale must have a 2.25 grade point average or above. Transfer students with fewer than 26 semester hours must have a 2.25 grade point average or above as well as the rank and test score requirements of an entering freshman.

HOUSING INFORMATION

REGULATIONS

ALL SINGLE FRESHMEN under the age of 21, not living with parent or legal guardian, are required to live in on-campus residence halls, or similar privately owned residence halls. The privately owned residence halls must provide facilities, food service, and supervision comparable to on-campus housing. These students are not permitted to live in trailers, rooming houses or apartments.

ALL SINGLE SOPHOMORES under the age of 21, not living with parent or legal guardian, are required to live in on-campus residence halls or University approved off-campus housing. Sophomore approved facilities include rooming houses and apartments. Such facilities are not required to provide food service but must have University-approved adult managers and are inspected and approved by the University.

There are no University regulations for JUNIOR, SENIOR, GRADUATE, MARRIED STUDENTS, VETERANS, OR those students who are 21 years of age by the first day of the fall semester.

UNIVERSITY FACILITIES FOR SINGLE UNDERGRADUATES

BRUSH TOWERS

The Brush Towers residential area, located on the southeast edge of the SIUC campus, consists of two 17 story air-conditioned residence halls (Mae Smith and Schneider Towers). Each hall houses 816 students (male, female, co-ed). Brush Towers residents may use the computer lab located at University Park.

UNIVERSITY PARK

The University Park residential area, located on the southeast edge of the SIUC campus consists of one seventeen story residence hall (Neely Hall-male, female, co-ed), and three four-story triad buildings (Allen, Boomer, and Wright Halls-male, female, co-ed). Neely houses 816 students and the triads each house 360 students. (This area is highly recommended for students taking classes at the College of Technical Careers or SIUC Airport since the bus service departs from this location). All buildings are air-conditioned and a computer lab is located in the commons building.

THOMPSON POINT

The Thompson Point residential area, located on the southwest edge of the SIUC campus consists of eleven halls with each housing approximately 120 students (male, female, co-ed). All buildings are air-conditioned and a computer lab is located in the commons building.

CONTRACT COSTS - 1989-90 - All Areas \$1,312/Semester \$2,624/Academic Year
There is an additional \$12.00/year housing activity fee.

Inquiries concerning on-campus housing should be directed to University Housing, Supervisor of Contracts, Washington Square-D, SIUC; (618) 453-2301, ext. 39.

UNIVERSITY FACILITIES FOR MARRIED STUDENTS

SOUTHERN HILLS

The Southern Hills residential area located on the southeast edge of the SIUC campus consists of efficiency, one bedroom and two bedroom furnished apartments for married students, single parents, and graduate students.

EVERGREEN TERRACE

The Evergreen Terrace residential area located on the southwest edge of the SIUC campus consists of two and three bedroom unfurnished apartments for married students and single parents.

MARRIED STUDENT HOUSING COST, 1989-90

Efficiency apartments	\$239/month
Furnished one bedroom	\$259/month
Furnished two bedroom	\$277/month
Unfurnished two bedroom	\$300/month
Unfurnished three bedroom	\$325/month

The University pays all utilities. Interested students should contact Family Housing, Washington Square-B, Southern Illinois University at Carbondale, Carbondale, Illinois 62901; (618) 453-2301, ext. 38.

OFF-CAMPUS FACILITIES

Single student facilities include residence halls, apartments, rooming houses and trailer courts. Married student facilities include apartments, rooming houses, private houses and trailers. Students may obtain information on off-campus facilities through the Off-Campus Housing Office, Washington Square-B, SIUC; (618) 453-2301, ext. 43.

GENERAL HOUSING INFORMATION

Application for Housing: An application for University Housing for single students is included with the application for admission. Admitted students for whom there is no housing application on file will automatically receive information and an application for housing about three weeks after admission. Priority for University Housing is determined by the date SIUC receives the completed housing application. Students are not eligible to receive a housing contract until they are officially admitted. Early application (even during the junior year) is encouraged.

Term of Contract: University Housing contracts are written for the fall and spring semesters and remain in effect for these two semesters. Summer contracts are issued separately. Students who desire housing during both the summer and the fall should submit two separate housing applications. Cancellation of contracts must be made in writing to the Supervisor of Contracts, Washington Square D.

Greek Row: This residential area primarily provides housing for recognized sororities and fraternities. Assignment to these areas is by invitation and interested students should contact fraternal organizations or the Inter-Greek Council, (618) 453-5714.

Meal Services: In all areas except married student housing and Greek Row, meals are provided on the basis of 20 meals per week, 3 meals each day, 6 days per week, and breakfast and noon dinner on Sundays. Unlimited second helpings are offered. No other food plans are available. A full-time dietitian is available to assist students with special dietary needs.

Special Interest Groups: Students may request to be assigned to areas where their special interest can be accommodated, such as study areas, graduate areas, over 21, University Honors Program areas or the College of Engineering and Technology hall.

Co-ed Living: Co-educational living (alternate suites of men and women on the same floor) is available in all areas, except the University Park Triads, for students who have reached sophomore standing. Co-ed housing in the Triads is by floor.

Room Furnishings: All rooms are equipped with twin size beds, closet space, chest of drawers, desks, study chairs, and draperies. Room arrangements are two students per room sharing private bath with adjoining two student room. The University Park Triads have several shower and restrooms centrally located on each floor for easy access by residents. Local telephone service is provided; however, students must provide their own telephone instrument.

Roommates: New students, both freshman and transfer, have the opportunity to request a roommate of their choice before arriving, provided the request is mutual, each student has a signed contract on file with advance payment for the same residential area, and space exists at the time room assignments are made.

REGISTRATION AND ADVISEMENT

Two registration periods are available each semester: Advance and Final.

Advance Registration is conducted during approximately eight weeks of the preceding semester. New freshmen and transfer students entering in the fall semester have several weeks during April, May, June, July and August set aside for the purpose of orientation, advisement, and registration. The advance registration period is highly recommended for new freshmen and transfer students as it permits maximum course selection, counseling and campus orientation.

Final Registration is conducted during the last three weekdays preceding the start of the semester. Late applicants and students who did not advance register will complete the advisement and registration process during this period.

A similar procedure is used for advisement and registration for the spring semester and summer session.

ADVISEMENT

All new students (freshmen and transfers) are notified by mail of advisement procedures. Notices are mailed out for the semester indicated around the following dates: fall, March 15; spring, October 15; summer, March 15.

All new students will receive additional information on the advance registration procedures at the time they receive their advisement appointment. Should a student find it is impossible to keep the advisement appointment he or she should contact the specific advisement unit and suggest an alternative date during the advance registration period.

Re-entry and continuing students must make their own advisement appointment with their academic unit advisement center.

OFF-CAMPUS ADVISEMENT AND REGISTRATION

Advisement and registration for the fall semester is available off-campus usually twice a year, March (Springfield area), and May (Chicago area). All new students will be notified by mail concerning these special advisement and registration opportunities.

PROCEDURES

Advance registration usually takes one-half day unless the student elects to take advantage of various proficiency examinations. Parents are encouraged to accompany their son and daughter.

LODGING AND PARKING

Adequate lodging facilities are available in and near the community at various motels. A list is included in the registration information.

In addition, guest parking permits are included in the registration information packet for use in regular University lots. The Arena parking lot, Student Center lot, and metered stalls on campus are available for campus parking to visitors.

ORIENTATION: TWO HOURS

Guests are welcome to tour the campus or visit office related to their special needs (housing, financial assistance, etc.). In addition, the Office of Student Development coordinates scheduled orientation programs to help the new or transfer student become more familiar with SIUC each day of advance registration. Through participation at these sessions, students and parents meet with various University faculty and staff depending on the orientation program chosen. A formal orientation program is offered Wednesday through Sunday prior to the start of the fall semester. All students are strongly encouraged to attend. For more information, contact the Office of Student Development (618-453-5714).

ADVISEMENT: APPROXIMATELY FORTY-FIVE MINUTES

A student is advised of requirements and proficiency opportunities, discusses vocational plans, and then selects appropriate courses.

REGISTRATION: ONE HOUR

The student selects the time his or her classes will meet and obtains an ID badge.

ACADEMIC UNIT ADVISEMENT CENTERS

ACADEMIC UNIT ADVISEMENT CENTERS

Area Code (618)

Agriculture	453-3080
Business and Administration	536-4431
Communication and Fine Arts:	
Art and Design.	453-4313
Cinema and Photography.	453-2365
Communication Disorders and Sciences.	453-4308
Journalism.	536-3361
Music	536-7505
Radio and Television.	536-7555
Speech Communication.	453-2291
Theater	453-4308
Education	453-2354
Engineering and Technology.	453-1636
Human Resources	536-2378
Liberal Arts.	453-3380
Science	536-5537
Undergraduate Academic Services	453-4351
Pre-Major	453-4351
Pre-Nursing	453-4351
Center for Basic Skills	536-6646
Special Admissions Program.	536-6646

Technical Careers

Advanced Technical Studies.	453-8898
Architectural Technology.	453-3734
Automotive Technology	985-4024
Aviation Maintenance Technology	536-3371
Aviation Management	453-8898
Avionics Technology	536-3371
Computer Information Processing	453-7226
Construction Technology	985-4024
Consumer Economics and Family Management.	453-8898
Electronics Management.	453-8898
Electronics Technology.	453-7200
Health Care Management.	453-8898
Interior Design	453-3734
Law Enforcement	453-7211
Office Systems and Specialties.	453-7281
Photographic Production Technology.	453-2454
Tool and Manufacturing Technology	985-4024

*The following Technical Careers major students will be contacted by their program coordinators concerning Advisement and Registration and should not call for an appointment: Aviation Flight, Commercial Graphics/Design, Dental Hygiene, Dental Technology, Mortuary Science and Funeral Service, Physical Therapist Assistant, Radiologic Technology and Respiratory Therapy.

PRE-ADVISEMENT MATH TESTING

All new freshmen, except those admitted to two-year associate degree programs, some transfer students, and those who have never taken a college level mathematics course, must take a math placement test prior to advisement and registration for classes. These math tests assist academic advisors in placing students in the proper level of math courses.

All new students will receive information concerning math testing. Numerous testing dates will be available both on and off campus. Normally, students will contact their academic advisement centers to pre-arrange math testing and advisement and registration for the same day.

COSTS

TUITION AND FEES

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. The following fee schedule is for the 1989 Fall Semester.

ON-CAMPUS UNDERGRADUATE FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 65.00	\$114.75	\$179.75	\$195.00	\$114.75	\$309.75
2	130.00	130.88	260.88	390.00	130.88	520.88
3	195.00	147.03	342.03	585.00	147.03	732.03
4	260.00	163.17	423.17	780.00	163.17	943.17
5	325.00	179.30	504.30	975.00	179.30	1154.30
6	390.00	195.45	585.45	1170.00	195.45	1365.45
7	455.00	211.60	666.60	1365.00	211.60	1576.60
8	520.00	227.73	747.73	1560.00	227.73	1787.73
9	585.00	243.87	828.87	1755.00	243.87	1998.87
10	650.00	260.03	910.03	1950.00	260.03	2210.03
11	715.00	276.15	991.15	2145.00	276.15	2421.15
12*	780.00	293.30	1072.30	2340.00	292.30	2632.30

All students will pay the full Student Medical Benefit Fee of \$94.00 which will entitle them to full medical benefits at the Health Service. An on-campus student may seek a refund of the Student Medical Benefit Fee within the first three weeks of each semester by contacting the administrative director of the Health Service. The on-campus undergraduate student fee also includes allocations to the Student Medical Benefit Fee, Student Recreation Fee, Athletic Fund Fee, Student Center Fee, Student Activity Fee, Student-to-Student Grant, and Bond Retirement Fee.

The Student-to-Student Grant Program Fee is voluntary. Students may receive a full refund for this fee by requesting such within ten days following initial tuition and fee payment.

Payment: Tuition and fees are payable by semester. A student who advance registers receives a Statement of Account and may pay either by mail or in person at the Bursar's Office, by the deadline date specified on the statement. Students who register for classes who do not pay thier tuition and fees by the specified deadline will have their registrations cancelled. The University provides students with an opportunity to pay tuition and fees on an installment basis if they choose to do so. There is a nominal service charge for installment payments.

A student holding a valid scholarship is exempt from tuition and fees to the extent prescribed by the scholarship. An Illinois State Scholarship may cover all tuition and fees or it may be a partial award.

Tuition Costs by Year: Full-time Illinois residents will pay \$2,144.60 per year for tuition and fees (fall and spring semesters). Full-time out-of-state (non-residents) students will pay \$5,264.60 per year for tuition and fees.

Total University Charges: Full-time Illinois residents can expect to pay up to \$2,636.00 per year in housing costs bringing total University charges to approximately \$4,780.60 per year for room and board, tuition and fees. Full-time out-of-state students can expect to pay up to \$2,636.00 per year for housing bringing total University charges to approximately \$7,900.60 per year for tuition and fees, room and board.

Textbooks: Students must purchase all textbooks (estimated at \$450 per year).

Personal Expenses: Includes transportation to and from home, entertainment and personal items estimated at \$1,747.40 per year.

FINANCIAL ASSISTANCE

The Financial Aid Office aids students in seeking monetary assistance to finance their post-secondary education at Southern Illinois University at Carbondale. Last year, SIUC distributed in excess of \$67 million in financial assistance allowing over 19,000 students to receive financial assistance in the form of grants, scholarships, loans and/or student work.

A package of financial aid is prepared for those students who qualify. The package may include scholarships, grants, work, and loans. The financial aid package offered is contingent upon both the availability of program funds and each student's demonstrated financial need as determined by the American College Testing Program Family Financial Statement (ACT/FFS) form.

Grants and scholarships are gift aid which are not repaid to the donor. Loans are repaid after the student leaves school but are offered at a lower than market rate of interest. Student work is offered to all students who desire to earn money while attending SIUC. The amount a student may earn is determined by the amount of other financial aid received. The total aid (including work) cannot exceed the cost of attending SIUC.

MAJOR FINANCIAL AID PROGRAMS

SIUC participates in the major federal, state, and institutionally-funded programs including the Pell Grant, ISSC Monetary Award, Stafford Loan (formerly Guaranteed Student Loan), Perkins Loan, Student-to-Student Grant, Supplemental Educational Opportunity Grant, and the Student Work Program.

The Financial Aid Opportunities brochure summarizes the major types of financial aid coordinated through the Financial Aid Office including a brief description of each program, the application procedures, and the corresponding deadlines. A copy of this brochure is available upon request.

Grants. The major federal grant programs include the Pell Grant and the Supplemental Educational Opportunity Grant. The largest state grant program is the Illinois State Scholarship Commission Monetary Award Program. All of these grants are based on financial need as determined by the ACT/FFS.

Scholarships. SIUC distributes several scholarships based on academic achievement to new freshmen and Illinois community college transfer students (associate degree graduates only). These scholarships vary in eligibility requirements and values. Students eligible to receive these awards will be contacted directly by New Student Admission Services.

Recipients of academic scholarships are selected annually by academic units of the University. Also, a limited number of private scholarships are available from each area. More information is available from the appropriate scholarship coordinator.

Students interested in seeking a private grant or scholarship should check as many sources as possible including high schools, local clubs and civic organizations, businesses, church groups, alumni organizations, commercial lending institutions, and public libraries.

Loans. The largest loan programs include the Stafford Loan (formerly Guaranteed Student Loan)-SL, the Parent Loan for Undergraduate Students-PLUS, the Supplemental Loan for Students-SLS and the Perkins Loan. To apply for these loans, students should complete and mail the 1990-91 ACT/FFS. The PLUS and SLS loans also require a separate application from the lender. Both the Perkins Loan and the Stafford Loan are based on financial need. Since Perkins Loan funds are limited, students should mail the ACT/FFS before April 1, 1990. The Perkins Loan is borrowed through the school while the Stafford Loan is borrowed through the lending institution.

Employment. To apply for an on-campus student work job, students should have a processed ACT/FFS on file. Students can work a maximum of 20 hours per week at the prevailing minimum wage. Once students arrive on campus, they should review the "Job Listing Board" in the Financial Aid Office to determine which jobs interest them. Referrals will be given to students to interview with prospective on-campus employers. In addition, a representative is available to give referrals for part-time off-campus jobs. Over 5000 student workers were employed by the University last year and approximately 3000 students worked off-campus.

APPLICATION FOR FINANCIAL ASSISTANCE FOR THE 1990-91 ACADEMIC YEAR

To apply for financial aid, students and their parents should complete and mail the 1990-91 American College Testing Family Financial Statement (ACT/FFS). To have SIUC receive a copy of the information, students must enclose the ACT processing fee and enter the SIUC school code #1144. The 1990-91 ACT/FFS allows students to apply for the major programs coordinated through the Financial Aid Office. Students should complete and mail the 1990-91 ACT/FFS form as early as possible since Campus-Based Aid funding is limited and distributed to eligible students on a first-come, first-served basis. Priority consideration for Campus-Based Aid will be given to those students who complete and mail their 1990-91 ACT/FFS before April 1, 1990. ACT/FFS forms are available in January and may be obtained from local high schools, community colleges or from SIUC's Financial Aid Office.

Transfer Students. Students who have attended another college or university will be classified as transfer students. Transfer students applying for financial aid must have a Financial Aid Transcript sent to the Financial Aid Office indicating all financial aid received from each college or university attended previously. Even though students may not have received financial assistance prior to attending SIUC, federal regulations mandate that the Financial Aid Office have that verification. No aid can be awarded until all Financial Aid Transcripts are received. These forms may be obtained from the Financial Aid Office. Students planning to transfer to SIUC for the spring semester who received a Stafford Loan (formerly Guaranteed Student Loan), Perkins Loan, Supplemental Educational Opportunity Grant or student work during the fall semester at another institution must reapply for those awards at SIUC by submitting the 1990-91 ACT/FFS. Students who received a Supplemental Loan for Students (SLS) or a Parent Loan for Undergraduate Students (PLUS) should contact the Financial Aid Office to determine loan eligibility and application procedures. Transfer students who received the Pell Grant must obtain a duplicate of their Student Aid Report (SAR) from the Pell Grant Program to submit to the Financial Aid Office. Transfer students who received ISSC awards must change the school name on the Pell Grant Student Aid Report and resubmit to the Pell Grant Program who will forward the information to ISSC. ISSC will recompute and adjust the ISSC award to reflect the cost of attending SIUC.

Notification Process: After mailing the 1990-91 ACT/FFS, students will be notified regarding their eligibility to receive the Pell Grant, ISSC Monetary Award, SIUC Campus-Based Aid, Student Work, and Student Loans. However, information regarding the manner in which students will be notified of their eligibility status is likely to change and was not available at the time of this publication's printing. Specific information will be available closer to the 1990-91 academic school year. Students should contact the Financial Aid Office at that time.

Academic Progress Standards for Financial Assistance. Southern Illinois University at Carbondale requires that a student be making "satisfactory progress" toward a degree if that student wishes to receive financial aid funds. A student is making "satisfactory progress" toward a degree if successfully meeting two basic academic standards. First, a student must complete a reasonable number of credit hours toward a degree each academic year. Second, a student must maintain a scholastic standing, derived from grades, that allows for continued enrollment at the University under current academic guidelines. A copy of the Policy on Satisfactory Progress is available upon request from the Financial Aid Office.

Students and counselors desiring additional information should contact: Financial Aid Office, Woody Hall, B Wing, Third Floor, Southern Illinois University at Carbondale, Carbondale, IL 62901-4702 or call (618) 453-4334.

PLEASE NOTE: At the time of this publication's printing, final rules and regulations for the 1990-91 academic school year were pending. Any changes in federal, state or institutional regulations may affect the information reported. Students are therefore encouraged to contact the Financial Aid Office at a later date for the most current information.

STUDENT SERVICES

Career Development Center, 618-536-7528

The Career Development Center provides students the opportunity to explore occupations and develop vocational interests, examine individual skills and potential, and gives assistance in career decision making. Students may also take advantage of an array of career personality inventories designed to assist students in career development or exploration. Career assistance is provided on a one to one basis in addition to groups, workshops or through the use of specially designed computer programs. CDC also maintains a Career Resources Library which houses occupational information on approximately 25,000 occupations.

University Placement Center, 618-453-2391

The University Placement Center staff provides resources, education and training to enable individuals in their pursuit of professional employment and graduate education. Resume writing services, interviewing opportunities, and job vacancies are provided. The Placement Center makes referrals of registered applicants to employers when the employer indicates to the Center that vacancies exist. A credentials mailing service is provided for vacancies for which employers will not be visiting the campus.

University Testing Services, 618-536-3303

Testing Services is a regional center offering undergraduate and graduate admission, technical, professional and certification examinations. Tests such as the ACT, SAT, GRE, LSAT, MCAT, Miller Analogies Tests, etc., are offered on a regular basis. Local placement and academic proficiency tests and National CLEP and PEP examinations are also available. These programs insure proper class placement of entering students and provide academically talented students with the opportunity to receive college level credit for material already mastered. In addition, general educational development tests for area adults who have not completed high school, and licensure and competency programs required by the state of Illinois and professional associations are offered as a service to candidates. Registration forms and information brochures, many containing sample tests allowing candidates to become familiar with test content and emphasis, are available from Testing Services.

Counseling Center, 618-453-5371

The Counseling Center is staffed with professional psychologists and counselors qualified to assist students with personal development issues and to resolve emotional problems. Personal problems, relationship adjustment difficulties, family conflict, and sex role awareness development are areas of frequent concern to students. Individual, couple and group counseling as well as crisis intervention are provided within an atmosphere of confidentiality and trust. In addition, personal development group programs are available to assist students in such areas as social skill development, assertiveness, drug and alcohol abuse, managing anger, victims of incest, eating behaviors, and others.

Women's Services, 618-453-3655

The purposes of the Office of Women's Services, a component of the Counseling Center, is to maximize the opportunities and experiences of women who choose to attend SIUC. One of the most important functions of the office is to facilitate personal growth that can result in assisting women in recognizing and developing their potential for success--both during and after college. The services fall into six categories: 1) a clearinghouse for resources and referral information; 2) development and implementation of outreach programming (i.e., workshops, seminars, groups, lectures) on topics relevant to women; 3) consultation for other services that are working with women in the University and community; 4) advocacy and support for women students, including providing programs designed specifically to assist adult women students who are returning to school or who are furthering their education; 5) coordinating the Campus Safety Program, which includes Women's Safety Transit and women's self defense classes; and 6) library services which make available many books and articles on women's issues not found elsewhere on campus.

Non-Traditional Student Services, 618-453-2829

The Office for Non-Traditional Student Services serves a variety of students including persons who have been away from formal education for a long period of time, persons married, divorced, widowed, persons interested in re-training for new careers, and part-time students, commuters, and veterans. A variety of services are available to assist such students in their transition and enrollment at SIUC.

Disabled Student Services, 618-453-5738 (Voice or TDD)

This office coordinates and provides support services to disabled students including those who are non-ambulatory, semi-ambulatory, visually impaired, hearing impaired, learning disabled, or otherwise permanently disabled. A wide range of services are offered including: academic support services, handicapped van transportation, other transportation and parking arrangements, modified housing, adapted recreational activities, wheelchair repair, and personal attendant referrals. The academic support services include: test proctoring services for

students needing additional time or reading or writing assistance to complete regular course exams; pre-enrollment planning for support services; readers; tutors; taped texts; equipment loan; mobility training for the visually impaired; notetakers, interpreters, and special counseling. The Illinois Department of Rehabilitation Services (IDORS) maintains an on-campus office, and the DSS office has close liaison with IDORS to facilitate admission and enrollment of disabled students sponsored by IDORS. The SIUC campus is highly accessible, and all programs, services, and activities are available to disabled students. The disabled individual applies for admission in the same manner as any other applicant. The nature or severity of disability have no bearing on the admission determination. Interested disabled persons are strongly encouraged to formally apply for admission as far as possible in advance of the semester starting date in order that all necessary support services, financial assistance, special equipment, and housing arrangements may be arranged in advance.

Clinical Center Achieve Program, 618-453-2595

The Clinical Center Achieve Program is an academic support program for learning disabled students enrolled at SIUC. The program is self-supportive and participation is voluntary. Students in the Achieve Program are completely mainstreamed into the regular college curricula. The academic support provided by the Achieve Program is three-fold: 1) tutorial, 2) compensatory, and 3) remedial.

1. Achieve members are computer matched to tutors based on academic strengths/weaknesses and individual course selections.
2. Achieve members are provided with taped textbooks from Records for the Blind if their disability is in the area of reading. They are also given the opportunity to take their exams with a proctor at the Achieve Office. Proctored exams may be orally administered or simply untimed depending upon the needs of the individual student.
3. Remedial courses are also available for those desiring to improve their deficit areas. These include: 1) reading comprehension strategies, 2) notetaking/listening skills, and 3) paragraph/essay writing skills. Participation in remedial courses is not mandatory and often varies from semester to semester depending upon the student's personal schedule and course load.

Students interested in participation in the Achieve Program must apply to the University as well as to the Achieve Program. Early application to the Achieve Program (sophomore-junior year in high school) is highly recommended based on the large number of excess applications each year. Requests for information should be addressed to: Clinical Center Achieve Program, Baptist Student Center, Wing D, SIUC, Carbondale, IL 62901.

*Application fee:	\$ 50.00 (one time fee/non-refundable)
*Diagnostic fee:	\$ 500.00 "
	\$ 550.00

*Fees for academic support:	\$1500.00 (1988 fall semester)
	\$1500.00 (1989 spring semester)
	\$3000.00

*Figures are based on the 1988-89 academic year and subject to change.

Support fees are refundable anytime prior to the beginning of the semester. Fee waiver are available to those students who qualify.

Center for English as a Second Language, 618-453-2265

The Center for English as a Second Language offers English language training to non-native speakers of the language. The program runs year round and is a part of the Department of Linguistics, an academic unit of the College of Liberal Arts. The students studying at the Center plan in most cases to enter academic programs at the graduate or undergraduate level upon completion of their training. The attendance of approximately 100 students every term from a wide variety of cultures adds a significant international presence to the campus. Opportunities are provided for American students to meet with CESL students as a means of enriching their stay at Southern Illinois University at Carbondale.

STUDENT ACTIVITIES

The Office of Student Development (618-453-5714) sponsors a wide array of programs, activities, and services designed to provide students with opportunities that enhance and complement the traditional classroom learning experience.

Student Orientation Programs. The Office of Student Development provides a comprehensive orientation program for new students and their parents. These programs are designed to assist students in making a smooth transition into the University community and to introduce both new students and their parents to the University's vast resources, services, and programs. Orientation sessions are offered prior to the beginning of each semester and on new student advisement and registration days. Upperclassmen, known as Student Life Advisers (SLAs), serve as orientation peer advisers to help the new student learn about the campus and its services. The Student Orientation Committee is available year round to assist students.

MAGIC STEP AHEAD. The Office of Student Development offers three unique first-year experience programs which assist new students in getting a "magic step ahead" at SIUC. Project MAGIC (Maximize Academic Growth in College), a general advisement program for new students, provides the opportunity for a new student to develop a friendly and helpful relationship with a University faculty or staff member who can assist the new freshman or transfer student in developing career and academic goals, in learning how to maximize the educational opportunities available at SIUC, and in becoming acclimated to college life. Project STEP (Success Through Experienced Peers) is a peer mentoring program which promotes new student involvement and leadership opportunities through a network of trained upperclass volunteer students. Project AHEAD (A Humanistic Educational Approach to Development), offered in cooperation with the Department of Sociology, is designed as an academic course to help prepare new students for success in college. The course uses an experiential learning mode of activities and group discussions pertaining to the first-year experience. Topics for discussion focus on factors and issues associated with successful adjustment in college and academic achievement. Students learn valuable tips on study skills, communication skills, reading skills, time management techniques, and testing skills.

SIUC Parents Association. Open to all parents of SIUC students, the Parents Association provides opportunities for parents to become better informed and more positively involved with their student's education and University experiences. The nominal annual family membership fee entitles parents to periodic newsletters, special event programs, and a number of University and community discounts.

Registered Student Organizations. Over 380 registered student organizations offer opportunities for student involvement, student leadership and development, and experiential learning. A core of over 400 volunteer faculty/staff advisers, along with the professional staff of the Office of Student Development, provide direction and consultation with the student organizations in the areas of fiscal management, organizational development, and University policies and procedures. Included among the organizations are student governmental groups, coordinating councils, public interest groups, fraternities and sororities, publication and media groups, scholastic and professional honoraries, departmental clubs, special interest groups, religious organizations, and sports and recreation clubs.

Black Affairs Council. Black Affairs Council (BAC) serves as the coordinating and governmental body for the 16 Black student organizations on campus. BAC assumes a major responsibility for programming social, cultural, and educational programs for Black students at SIUC.

Inter-Greek Council. Inter-Greek Council (IGC) is the activity coordinating council for the University's 17 social fraternities and 9 social sororities. Sub-councils include the Inter-Fraternity, Panhellenic Council, and Pan-Hellenic Council. The SIUC Greek System promotes leadership, scholarship, and service, offering students an opportunity to enhance their University experience. Rush, or membership recruitment, is sponsored at the beginning of fall and spring semesters, as well as at designated times throughout the year.

Mobilization of Volunteer Effort. Mobilization of Volunteer Effort (MOVE) promotes student involvement and community service learning activities in the University and community through a series of student volunteer outreach programs in such areas as child care, senior citizens programs, recreation and youth activities, crisis intervention, and tutorial assistance. Special projects include the United Way campaign and coordination of the largest student Red Cross Blood Drive in the country, among others. MOVE also serves as a clearinghouse for student organizations which promote service and need assistance with a volunteer project or special event.

Leadership Development Services. The Office of Student Development sponsors a leadership development series designed to provide students with activities and experiences that enhance their leadership skills and student involvement on the campus. The LEAD (Leadership Education and Development) organization, composed of faculty, staff and students, provides direction and consultation for individual students as well as registered student organizations and offers leadership workshops and special topic seminars throughout the year.

Credit for Involvement. In cooperation with various academic units, the Office of Student Development provides opportunities for students to receive academic credit for their participation in student activities and student organizations. Opportunities available include leadership development courses for fraternity and sorority members, community service-learning programs for MOVE volunteers, leadership development seminars for orientation Student Life Advisers, and undergraduate and graduate internships.

Rainbow's End. Rainbow's End is a comprehensive day care, child development center designed to serve the children, ages six weeks to ten years, of SIUC students, faculty, and staff members. The center, which is staffed by qualified professionals, is licensed by the Illinois Department of Children and Family Services and is a participant in the State of Illinois Food Reimbursement Program. Rainbow's End is open from 7:30 a.m. to 5:30 p.m. each day the University is in session. Tuition and fees are assessed according to the number of hours for which the child is enrolled and are offered at a reduced rate to student parents. Rainbow's End is located at Lakeland School, 925 South Giant City Road in Carbondale, telephone 453-6358.

Touch of Nature, 618-529-4161

Southern Illinois University at Carbondale is home to a unique center for outdoor, environmental, and experiential learning. Known as the Touch of Nature Environmental Center, it is one of the three major centers of its type and is highly respected throughout North America for programs that emphasize both natural and human resources.

SIUC is the first University in the United States to use nature and the out-of-doors as extensions of the classroom. Touch of Nature offers a wide variety of credit and non-credit educational and service opportunities for individual students. We provide education and recreation for the people of Illinois and the nation through a balance of public service, institutional support, service to students, instruction, and research. Few other environmental centers offer an equivalent range of services and programs. The Center serves as a field site for the departments of botany, forestry, recreation, special education, rehabilitation, zoology and administration of justice, to name a few. Internship and practicum opportunities for academic credit is available.

The Touch of Nature staff believes that individuals and groups, agencies and institutions must shape themselves and their environment in ways that will increase their well-being and thereby their productivity. In that spirit, the Center's programs and services are designed to enrich the lives of participants.

Touch of Nature is located eight miles southeast of the main campus in the rolling hills of Southern Illinois. Its 3,100 acres are bordered by a 700 acre lake, Giant City State Park, and the Crab Orchard National Wildlife Refuge as well as the Shawnee National Forest.

Office of Intramural-Recreational Sports, 618-536-5531

The Office of Intramural-Recreational Sports is available to provide students, faculty, staff, alumni, their families and guests with a wide variety of interesting and enjoyable recreational activities. Included in these activities are over 60 intramural sports programs, 30 sport clubs, and numerous informal programs such as basketball, swimming, tennis, racquetball, badminton, boating, weight training, dancercise, etc. In addition, a recreational information center (LES) and an outdoor recreational equipment rental program are available in the Student Recreation Center.

INTERCOLLEGIATE ATHLETICS

General Information

Southern Illinois University at Carbondale continues to boast one of the country's best all-around sports programs for men and women. The Salukis compete within Division I of the National Collegiate Athletics Association (NCAA) in all but one sport. In football, SIUC holds Division I-AA status.

Long known for its well-balanced program, and particularly so for sports such as baseball, track and field, and swimming, SIUC's basketball and football programs have also established strong traditions. In 1983, the Salukis claimed the NCAA Division I-AA national football championship and in 1967 claimed the National Invitation Tournament basketball title.

Many former Salukis have distinguished themselves in almost all sports, most notable is Walt Frazier who led SIUC to its NIT title in 1967. Others include Jim Hart, third-ranking passer in NFL history who is now the Salukis Athletic Director; Dave Stieb, Toronto Blue Jays' pitching ace and a starter in both the 1983 and 1984 All-Star games; current NFL stars wide receiver Kevin House with Los Angeles and defensive back Terry Taylor with Seattle; world-class 400-meter champion Michael Franks; national gymnastic champion Brian Babcock and others.

SIUC was well represented at the 1988 Olympics as two coaches and six athletes participated in the games.

Academic Excellence

Paralleling SIUC's athletic success has been an outstanding academic record on the part of student athletes. Thirty-six percent (36%) of students athletes earned term or cumulative grade point averages of 3.0 or above in the fall of 1988. SIUC has led the Gateway Conference for four consecutive years in the number of student athletes who earned President's All Academic Awards. In 1987, two student athletes received GTE Academic All-American Awards, and in 1988, still another two Salukis received the award. Since 1983, eight SIUC student athletes have been named Academic All-Americans.

Baseball

Under the leadership of Richard "Itchy" Jones, the baseball team has been to the College World Series on three occasions and to the NCAA Tournament nine times. The Salukis have won the Missouri Valley Conference five times and have had sixteen players in the major leagues.

Basketball

Men: The team posted a 20 win season and lost in the finals of the Missouri Valley Conference Championships. As a reward for their outstanding season, the Salukis were extended a bid to the NIT Post Season Tournament.

Women: The Saluki women compiled four straight twenty-plus win seasons, received two consecutive NCAA bids and won back-to-back Gateway Conference Championships before relinquishing the title in 1987-88. The Salukis finished 1988-89 with a 19-12 record after losing in the finals of the Gateway Conference Tournament.

Cross Country and Track

Men: The traditionally strong men's team has captured 21 of 26 Missouri Valley Conference (MVC) Track and Field Championships since 1976. In addition, the cross country teams have won six MVC championships and have had ten All-Americans.

Women: The SIUC Women's Track and Field team has won three consecutive Gateway titles in indoor track and are favored to win a fourth straight outdoor track title in 1988. Both teams will benefit greatly from the new track at McAndrew Stadium.

Football

Under new head coach Bob Smith, the football Salukis plan to carry on the tradition of fielding one of the stronger teams in Division I-AA. Smith came to SIUC from the University of Illinois and was previously head coach at Southeast Missouri State.

Golf

Men: Former track and field coach Lew Hartzog is in the process of building a successful golf program similar to that which he engineered in track and field at SIUC.

Women: The Salukis are among the strongest teams in the midwest, and have been Gateway Conference Champions in two of the last five years.

Swimming and Diving

Men: The men's team has been in the NCAA top 20 for 27 of the past 28 years. In 1988-89, the Salukis were ranked as high as 11th in the country. Head coach, Doug Ingram is chairman of the U.S. Olympic Swimming Committee and was sports chief delegate at the 1988 Olympics.

Women: The women's team has finished in the top ten at the NCAA Nationals in four of the past seven years. Always one of the top teams academically, five swimmers were named Academic All-Americans in 1987 by the College Swimming Coaches Association of America.

Tennis

Men: Coach Dick LeFevre has amassed over 375 wins in his 30 years as head coach at SIUC. His teams have finished in the NCAA Top 20 on four occasions and in the Top 10 once.

Women: The traditionally strong women's team won the Gateway Conference Championships in 1983 and 1985.

Volleyball

SIUC lost in the semi-finals of the Gateway Conference Tournament and finished the season tied for third in the conference. Senior Beth Winsett was named GTE/COIDA Academic All-American for the second straight year after posting a perfect 4.0 grade point average in chemistry. New coach Patti Hagemeyer came to SIUC from Notre Dame where her efforts turned the Irish into a Midwest volleyball powerhouse.

Men's Coaches

Baseball:	Richard Jones
Basketball:	Rich Herrin
Cross-Country:	Bill Cornell
Diving:	Dave Ardrey
Football:	Bob Smith
Golf:	Lew Hartzog
Swimming:	Doug Ingram
Tennis:	Dick LeFevre
Track:	Bill Cornell

Women's Coaches

Basketball:	Cindy Scott
Cross Country:	Don DeNoon
Diving:	Dave Ardrey
Golf:	Diane Daugherty
Softball:	Kay Brechtelsbauer
Swimming:	Doug Ingram
Tennis:	Judy Auld
Track & Field:	Don DeNoon
Volleyball:	Patti Hagemeyer

Athletic scholarships are awarded in all sports. Applicants interested in obtaining more information on athletic scholarships are encouraged to contact the coach of the respective sport.

Men's Coaches

Telephone: 618-453-5311
Football Office: 618-453-3331
Locations: SIU Arena

Women's Coaches

Telephone: 618-536-5566
Location: Davies Gym

MOTOR VEHICLES AND BICYCLES

REGISTRATION

All motor vehicles (and bicycles) operated on campus must be registered with the University Parking Division. An eligible student may register only his or her own vehicle or a vehicle of a member of his or her immediate family. Only eligible students may park on campus.

ELIGIBILITY

Graduate students and the following categories of undergraduate students may apply for permission to use, operate, park, or possess a motor vehicle on campus during posted hours.

- 1) Juniors and seniors (56 credit hours or more).
- 2) Veterans with two years of military service.
- 3) Married students.
- 4) Students residing in the home of parents and guardian.
- 5) A student who requires a motor vehicle for reasons of health or physical condition as certified in writing by Specialized Student Services.
- 6) A student not covered by 1 through 5 preceding whose reason for requiring a motor vehicle is judged valid by the dean of students and so certified in writing.

APPLICATION AND FEE

Each applicant must bring to the Parking Division the following four items: 1) a valid operator's license, 2) vehicle registration card or notarized license-applied-for receipt, 3) proof of liability insurance, and 4) a current University identification card. Dealer license plates are not acceptable for motor vehicle registration. If a parking decal is purchased, a fee is charged and is determined by the type of decal an applicant is eligible for and receives, currently \$2-\$10.

Yellow registration decals will be issued for \$2.00 upon proper application.

NOTE: Decals issued, according to color, indicate the nature of any parking privileges permitted the holder.

All decals are valid until September 1, or until revocation or loss of eligibility. The extent of the motor vehicle privilege granted to any person shall be based on need or advanced academic standing, in general accordance with the following criteria:

1. First opportunity to obtain blue decals (\$30) will be granted to full-time employees and to students whose health or physical condition require the privileges thereof. Handicapped students will be assessed \$10 for the blue decal.
2. All employees and students eligible in accordance with any of the categories mentioned under ELIGIBILITY may apply for red decals (\$10).
3. A yellow decal serves as evidence of the proper registration of a motor vehicle by an eligible student. It authorizes parking on campus in lots 24 (Campus Lake), 56 (Arena), and at the Student Center meters during the posted hours.
4. Green storage permits will be available to students residing on campus who receive exceptions to park on the campus from the Office of the Dean of Student Life. These permits will be valid only in parking lots 23, 59, 100 and 106. They will not be valid in other parking areas on campus including loading zones and parking meters.
5. Temporary permits may be issued in unusual circumstances, and can be obtained from the Parking Division Office.
6. Guest permits are available to University visitors and offices, guests of University housing residents and guests of the Baptist Student Center free of charge.
7. 24-hour parking is available the FIRST FIVE DAYS of any term ONLY in lots 56, 59, 100 and 106. Until a parking decal is purchased, DO NOT park in any other area or you will be ticketed.
8. Bicycle decals will be issued for a \$2.00 fee upon application.

For additional information or parking brochure, contact:

University Parking Division
Washington Square Building D
Southern Illinois University at Carbondale
Carbondale, IL 62901
Phone: 618-453-5369

UNIVERSITY RECOGNITION OF HIGH SCHOLASTIC ACHIEVEMENT

Dean's List. At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list are established by each of the academic units. To be recognized as being on the dean's list, the student must have been in attendance full-time (12 semester hours or more) and must have earned the average for the semester which has been specified by the academic unit. If the student has met the criteria established, a notation will appear on the grade slip at the end of the semester. The dean's list is recognition for a particular semester. It does not take into consideration the student's complete record.

University Honors Program. The University Honors Program is explained elsewhere in this chapter. Those who successfully complete the University Honors Program receive recognition on the academic record and on the diploma at the time the degree is recorded.

Department Honors. Honors courses, individual honors work, and honors curricula, all designed to serve the student with high scholastic potential, are offered by departments in the College of Agriculture, the College of Human Resources, the College of Liberal Arts, and the College of Science. A departmental or academic unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the student's major. Some honors program require a comprehensive examination at the end of the junior year and again at the end of the first semester, but not from one school year to the next. Successful completion of a departmental or academic unit honors program is indicated on the academic record at the time the degree is recorded and on the diploma, thus, departmental honors in economics.

Scholastic Honors Day. Each spring a Scholastic Honors Day convocation is held to honor students exhibiting high scholastic achievement. All students who have maintained a cumulative grade point average of 3.50 or higher, and who have been full time students during the entire academic year, are honored at this time. A 3.50 grade point average is required for all work taken at Southern Illinois University at Carbondale, and in the case of transfer students, the cumulative average must be at least 3.50, also. Each academic unit has its own convocation and each student is recognized individually on this day.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most of these organizations is noted at the Scholastic Honors Day ceremonies. The following are examples of some of these organizations: Alpha Epsilon Rho, Alpha Lambda Delta, Beta Alpha Psi, Beta Gamma Sigma, Kappa Omicron Phi, Pi Mu Epsilon, Pi Omega Pi, Tau Beta Pi, the Liberal Arts and Sciences Honors Society, and the Honor Society of Phi Kappa Phi. Selection to membership in these organizations is not reflected on the academic record or diploma.

University Honors/Departmental Honors Recognition at the Time of Graduation. Graduating students with scholastic averages of 3.90 or higher receive the notation Magna Cum Laude; those with 3.75-3.89 receive Summa Cum Laude; and those with 3.50-3.74 receive Cum Laude. These averages apply to all work at Southern Illinois University at Carbondale, and in the case of transfer students, the averages apply to the cumulative record, also. Whichever of the University Honors apply, plus graduation with departmental honors, are recorded on the student's academic record at the time the degree is recorded and on the diploma.

PROGRAM FLEXIBILITY FOR THE STUDENT

Southern Illinois University at Carbondale offers students a wide variety of programs on all higher educational levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities provided students to either earn credit through means other than the traditional classroom method or develop programs better suited to individual student needs than already established programs. While greater flexibility is the goal, the University exercises appropriate supervision to ensure that flexibility is accompanied by educational soundness.

CREDIT BY MEANS OTHER THAN CLASSROOM ATTENDANCE

Several methods are provided for students to earn credit by means other than the traditional classroom method. The methods currently available are described below.

HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program, high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences such as Advanced Placement Tests, may apply for advanced placement and college credit through the Advanced Placement Program of the College Entrance Examination Board. To receive credit, students must earn a grade of 3, 4, or 5. The credit awarded will be recorded after 12 hours of credit in residence from SIUC is achieved.

Ordinarily, the maximum credit granted through advanced placement examination is fifteen hours. It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. Credit granted at another accredited college or university under this plan is transferable to this University up to a maximum of fifteen hours. Students may appeal to academic deans to be granted more than fifteen hours.

The following courses are those in which a student may currently earn credit through the Advanced Placement Examination of the College of Entrance Examination Board:

1. Physics: Consult Physics Department Chairperson
2. Chemistry: Chemistry 222A (4 sem. hrs.) and 222B (4 sem. hrs.)
3. Computer Science: Computer Science A: Computer Science 202 (3 sem. hrs.)
Computer Science AB: Computer Science 202 (3 sem. hrs.) and Computer Science 220 (3 sem. hrs.)
4. Biology: GEA 115 (3 sem. hrs.)
5. History: American - GEB 300 (3 sem. hrs.) and GEB 301 (3 sem. hrs.)
6. English: Language and Composition: GED 101 (3 sem. hrs.)
If score is '5', then GED 120 (3 sem. hrs.)
Literature and Composition: GEC 122 (3 sem. hrs.)
7. Foreign Languages: Consult chairperson, Department of Foreign Languages and Literatures
8. Mathematics: Calculus AB: Mathematics 150 (four sem. hours) Calculus BC: Mathematics 150 & 250 (8 sem. hours)
9. Music: Consult Director, School of Music
10. Art: Consult Director, School of Art
11. European History: History 200 (3 sem. hours)
12. American Government and Politics: GEB 114 (3 sem. hours)
13. Comparative Politics: GEB 250 (3 sem. hours)

COLLEGE LEVEL EXAMINATION PROGRAM

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for General Education courses. With a score of 520 or higher on the appropriate examination, it is possible for students to receive six semester hours of credit in each of the three fields of natural sciences, social sciences and history, and humanities.

A score of 580 or higher is required to pass the mathematics test. With this score, students may earn four hours of credit which will fulfill the General Education mathematics requirement.

For those who test through April, 1986. With a score of 650 or higher on the CLEP English examination, students are permitted to take GED 120, Freshman Honors Composition (three semester hours), instead of GED 101 and GED 102 (six semester hours). A student who scores 675 or above on the CLEP English examination will receive six semester hours credit (three semester hours GED 101 and three semester hours GED 102). A score of 650 to 674 entitles the student to receive a) advanced placement in GED 120, Freshman Honors Composition, and b) six semester hours credit upon the satisfactory completion of GED 120 with a grade of 'C' or higher (three semester hours GED 120 and three semester hours GED 102).

For those who test from May, 1986 through May, 1989. With a score of 540 or higher on the CLEP English examination, students are permitted to take GED 120, Freshman Honors Composition, instead of GED 101 and GED 102. A student who scores 565 or above on the CLEP English examination will receive six semester hours credit. A score of 540 to 564 entitles the student to receive a) advanced placement in GED 120, Freshman Honors Composition, and b) six semester hours credit upon the satisfactory completion of GED 120 with a grade of 'C' or higher (three semester hours of GED 120 and three semester hours of GED 102).

For those who test after May, 1989. Beginning June, 1989, the CLEP English Composition with Essay Examination will be required. With a score of 565 or above on the CLEP English Composition with Essay Examination, the student will receive six semester hours credit. A score of 540 to 564 entitles the student to receive a) advanced placement in GED 120, Freshman Honors Composition, and b) six semester hours of credit upon successful completion of GED 120 with a grade of 'C' or higher (three semester hours of GED 120 and three semester hours of GED 102).

If, prior to taking the CLEP examination, students have received a grade or audit in college level work in any discipline included in the CLEP exam or if they have enrolled in such a course, they shall be ineligible for credit. An exception to this rule is made in the case of students who enroll in the Early Admission Program. Such students receive university credit for courses taken during the Early Admission experience and for the CLEP credit earned.

The science exam includes botany, microbiology, physiology, zoology, chemistry, physics, earth science, geography, and all General Education Area A courses. The social sciences and history, exam includes western civilization, American history, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all General Education Area B courses. The humanities exam includes literature--poetry, fiction, drama, non-fiction, creative writing, films and performing arts; art--art appreciation, art history, architecture (past and present); music--classical, modern or jazz, humanities--all general humanities courses; all General Education Area C courses; philosophy--aesthetics, ethics, general survey. The mathematics test includes all college-level mathematics.

Students may be exempted from all General Education requirements if they 1) pass all five CLEP General Examinations before entering the University with these minimum scores; natural sciences, social sciences, and humanities, 520; English 565; and mathematics, 580, and 2) complete all requirements of the University Honors Program. No retroactive extension of the CLEP privilege will be allowed.

For further information, students should consult with their academic advisor. CLEP examinations should be taken at one of the national testing centers and the results sent to the local CLEP coordinator. The results are then forwarded to the Office of Admissions and Records for evaluation. CLEP credit will be recorded after the student has earned 12 hours of 'C' grade or above in residence at SIUC.

PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College of Entrance Examination Board, Advanced Placement Program, and the College Level Examination Program may be earned through proficiency examinations. Credit will be nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)
3. Upon passing proficiency examinations students are granted course credit and receive a Pass grade. Their records will show the name of the course, the hours of credit granted, and a notation "credit granted by proficiency examination." Students who fail a proficiency examination receive a Fail grade. This results in no penalty to the students. They will not receive credit and their records will show nothing regarding the proficiency examination. However, the proficiency examination grade report form will be filed in the students' folders for reference purposes.
4. Students may not take proficiency examinations for the same course more than one time. Nor may they take a proficiency examination in a course in which they have previously received a grade.
5. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of 'C' grade or above in residence at Southern Illinois University at Carbondale.

CREDIT FOR WORK EXPERIENCE

Work experience in the form of internships or student teaching is a common instructional technique. Southern Illinois University at Carbondale also permits certain undergraduate programs to grant credit for work experience that relates to students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major department. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience. Credit for work experience will be recorded after 12 hours of 'C' grade or above has been achieved in residence at SIUC.

SPECIAL PROGRAMS

THREE-YEAR BACCALAUREATE DEGREE PROGRAM

It is possible for students to complete the regular four-year baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. Students who desire to follow the three-year program should make the fact known to their academic advisors at the earliest possible date so their eligibility can be determined. A combination of programs may be employed to acculate these 30 hours as described above in the section on Credit by Means Other than Classroom Attendance.

COOPERATIVE EDUCATION

Cooperative Education Services are offered through the University Placement Center. Cooperative Education is an optional educational pattern that provides an opportunity for students to alternate periods of academic study with periods of off-campus employment related to the student's academic majors or career goals. Periods should be of sufficient duration to provide meaningful classroom and off-campus experiences. Cooperative education provides students an opportunity to earn funds that may be needed to support and complete their education, while it give them off-campus experiences that are closely integrated with and that enrich their total education. SIUC presently has arrangements with several employing organizations, the majority in engineering, business and agriculture.

UNIVERSITY HONORS PROGRAM

The University Honors Program is located administratively in the College of Liberal Arts. University Honors is a University-wide undergraduate program designed to offer unique educational experiences to participating students. The program includes making available special sections of certain classes, special seminars, and independent study. Some special scholarships and internships are available to University Honors students.

Membership in the University Honors Program is currently granted to entering freshmen who apply for membership with an ACT composite score in the 95th percentile or higher. Membership may be granted to other than entering freshmen who apply for membership and who have a cumulative grade point average of 3.25.

Members of the University Honors Program are designated as University Honors Students. Retention in the University Honors Program depends upon maintaining a 3.25 cumulative grade point average in all coursework and no failing grades in honors courses.

In order to receive the designation "University Honors Program" on a diploma and transcript at graduation, an honors student must complete 15 hours of honors coursework (nine hours for two-year College of Technical Careers students, Capstone students, and transfer students with an associate degree) and complete an honors thesis or project during the senior year. Substitution for this graduation requirement may be arranged for students in a major which does not allow curricular flexibility.

University Honors students may substitute a University Honors seminar in General Education Areas A, B, C and E for their General Education requirements in those specific areas, e.g., UHON 351a for GEA, UHON 351b for GEB, etc.

University Honors students may be exempted from all General Education requirements if they 1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and humanities, 520; English 565; and mathematics, 580; and 2) complete all graduation requirements of the University Honors Program. No retroactive extension of the CLEP privilege will be allowed.

Baccalaureate degrees for University Honors students are awarded through the regular degree-granting units. Those who successfully complete the University Honors Program graduation requirements receive recognition on the academic record and on the diploma at the time the degree is recorded.

Inquiries about the program should be addressed to the Director of the University Honors Program, Faner Hall 2427, (618) 453-2824.

UNIVERSITY STUDIES DEGREE PROGRAM

The University Studies Program provides the student with another option for earning a baccalaureate degree. The program is intended for the student who wants a broad, general education and does not wish to specialize on the undergraduate level. In fact, the program was proposed to serve the many students who express the desire to receive a degree, but whose interests are so varied as to preclude a major in a traditional discipline. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

SPECIAL MAJOR

Individual students with academic needs not met in any of the existing majors within the University may arrange a program of courses more suited to their special requirements. Information on the procedures for establishing a Special Major may be obtained from the coordinator of Special Majors, Undergraduate Academic Services.

CAPSTONE PROGRAM

The Capstone Program is for the transfer student with an Associate in Applied Science degree or equivalent certification whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The purpose of a Capstone Program is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Program are: 1) it is for selected occupational students who have changed their education and occupational goals; 2) it is an alternative baccalaureate degree program involving no more than two additional years of college at a four year institution; 3) it seeks to recognize similar objectives in both two year occupational programs and four-year baccalaureate degree programs; 4) it seeks to recognize similar objectives in certain work experiences and in four year baccalaureate degree programs; and 5) it provides a unique opportunity for developing secondary and post secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Program at Southern Illinois University at Carbondale can lead to the Bachelor of Science degree in any of the following areas:

College of Agriculture

Agriculture General

Agricultural Production

Agricultural Education

Agricultural Information

Agricultural Mechanization

Animal Science

Food and Nutrition (Food and Lodging
Systems Management)

Plant and Soil Science

College of Engineering and Technology

Industrial Technology

College of Technical Careers

Advanced Technical Studies

Aviation Management

Consumer Economics and Family Management

Electronics Management

Fire Science Management (off-campus only)

Health Care Management

College of Education

Clothing and Textiles

Early Childhood

Vocational Education Studies

Business Education

Education Training & Development

Industrial Education

Health Occupations Education

Home Economics Education

College of Human Resources

Administration of Justice

College of Liberal Arts

Paralegal Studies

Requirements for the Bachelor of Science Degree through Capstone

A student completing the degree through the Capstone Program must complete the hour requirements, residence requirements, and average requirements as are required for all bachelor's degrees. The following General Education requirements must be satisfied:

Science	6 semester hours (two courses chosen from two different groups in A)*
Social Science	6 semester hours (two courses chosen from two different groups in B)*
Humanities	6 semester hours (two courses chosen from two different groups in C)*
English Composition	one course (3 semester hours or 4 quarter hours of GE-D 101 or equivalent)
Speech	one course (3 semester hours or 4 quarter hours of GE-D 152 or GE-D 153 or equivalent)
Mathematics	one course (3 semester hours or 4 quarter hours of GE-D 107 or equivalent)
Health and Physical Education	3 semester hours
Minimum Total Required	30 semester hours

* For explanation of groups in Areas A, B, and C, see General Education, page 77 of the Undergraduate Catalog.

In addition to the General Education requirements, the student must complete the requirements specified in a contract to be developed between the student and the academic unit or department representative. The contract will list the remaining requirements for the baccalaureate degree.

Procedures for Applying to the Capstone Program

To be considered for the Capstone Program, the following basic conditions must be met:

1. Admission to the University and to the department offering the capstone option must be completed. An application to the Capstone Program cannot be considered prior to official admission into the University.
2. The applicant must complete an associate degree program or its equivalent certification, and provide the Office of Admissions and Records with an official transcript reflecting the awarded degree or certificate to be received no later than the end of the student's first semester in a baccalaureate program at SIUC. SIUC Military Programs students will have until the end of their second semester.
3. The applicant must have a minimum grade point average of 2.25 (4.0 grading scale) as computed by Southern Illinois University at Carbondale and according to regular University grading policies and procedures.
4. The applicant must file the application for the Capstone Program no earlier than one term prior to the intended entry into the program and no later than the completion of the first term of attendance at SIUC. SIUC students need to submit the application during the term preceding or just following completion of associate degree requirements.

If advance approval is granted to pursue a Bachelor of Science degree through the Capstone Program and the minimum requirements noted above are not met, the approval for admission to the program will be withdrawn.

Additional information concerning Capstone admission requirements, application and procedures, can be obtained from New Student Admission Services. Contact: Capstone Program, New Student Admission Services, Southern Illinois University at Carbondale, Carbondale, IL 62901-4710. Telephone: (618) 536-4405 or toll free in Illinois (800) 642-3531.

INTERNSHIPS IN WASHINGTON

Eligible students from Southern Illinois University at Carbondale can combine a work and learning experience for credit through the Washington Center. Participants can intern in congressional offices, executive agencies, and with groups in many other areas such as the environment, consumer affairs, journalism, communications, legal affairs, labor relations, health policy, arts, education, science, public relations, urban affairs, and women's issues. Students also attend seminars taught by representatives of major governmental agencies, interest groups, and corporations.

Prior arrangements are made through major departments to receive up to twelve semester hours for fall or spring semesters and up to six semester hours for a summer session.

The Washington Center at Southern Illinois University at Carbondale is coordinated through the University Honors Program, Faner Hall 2427, (618) 453-2824.

OPPORTUNITIES FOR STUDY ABROAD

Southern Illinois University at Carbondale recognizes that students interested in study abroad have widely varying needs and experience. Because of this, the University has developed a diverse array of program options ranging from traditional group programs to individual exchanges and internships. In addition, SIUC encourages students to utilize programs offered by other institutions and organizations when these are most appropriate for the individual student's needs. Information concerning eligibility requirements, program offerings and application deadlines may be obtained from the Study Abroad Programs division of International Programs and Services. SIUC offers the following programs:

Year Abroad in Austria: Two semesters are offered in Vienna at the Padagogische Akademie and other institutions. All courses are taught in German and require the student to have completed five semesters of college level German or equivalent with a 3.0 grade point average. Students may earn 30 to 34 semester hours of undergraduate credit in German language, literature, and civilization and in certain other areas with prior approval. Additional information may be obtained from the Department of Foreign Languages and Literatures.

International Student Exchange Program: This exchange program is multilateral and involves one-year placement at 101 study sites worldwide. It is a one-for-one exchange plan under which students pay their normal tuition and fees including room and board, and apply credit earned toward their degree. There are study sites in Africa, Asia, Australia, the British Isles, Canada, Europe, and Latin America. Students in scientific and technical fields are eligible as well as liberal arts and humanities. Applicants must be mature, have a minimum grade point average of 3.25, and possess the appropriate foreign language skills. Acceptance into the program is considered an honor bestowed in lieu of a scholarship. Most forms of financial aid can be used for this program. Additional information may be obtained from International Programs and Services.

Direct Exchanges: There are a number of direct student exchanges between Southern Illinois University at Carbondale and overseas schools which are coordinated either by the sponsoring academic department or by International Programs and Services. Sites are available in Japan, Australia, West Germany, Great Britain, Switzerland, and France. Eligibility requirements and application deadlines vary.

Travel/Study Program: Travel/study courses are offered during intersessions as well as during the summer months. Students must register four to six months prior to the start of the course and may earn graduate or undergraduate credit depending upon the nature of the course. Approximately ten offerings are available during each academic year ranging in length from one week to two months. Courses are taught by full time faculty of SIUC and most do not require a specialized foreign language background. Additional information may be obtained from International Programs and Services.

Partnership in Service-Learning: Service-Learning programs unite academic study and community service so that the service makes the study immediately relevant, and the study relates to and supports the service. The Partnership offers programs in Jamaica, England, Ecuador, the Philippines, France and Liberia. Programs are offered for a summer, a semester or academic year. The program is rigorous, demanding the ability to fulfill the commitment to the service and the academic requirements. Service-Learning programs are strongly recommended for students considering the Peace Corps or other long-term volunteer experiences after graduation.

The Paris Center for Critical Studies: The Paris Center which is co-sponsored by SIUC offers courses on contemporary French intellectual and cultural life. Originally conceived as a forum for the study of film and film aesthetics, the center has since expanded to offer courses and seminars in linguistics, literature, psychoanalysis, anthropology and semiotics. All coursework is in French. Contact the Department of Cinema and Photography for further information.

External Programs: A student may enroll in an overseas program conducted by a regionally accredited U.S. institution or an approved foreign institution and transfer the credit earned back to SIUC subject to departmental approval. Students must check with the Office of Admissions and Records or the Graduate School before registering since not all programs are approved for transfer credit. International Programs and Services will assist in this process and provides information on external programs.

Independent Study: Students may study abroad on an independent basis and earn credit through departmental independent study courses with the approval of the academic department. This option is normally limited to students conducting research or working on internships.

SCHOLASTIC STANDARDS

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, the scholastic standing and grade point average for that semester or session, and for the overall record at SIUC. It is important that students understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated grade point average, except that transfer students who are admitted on probationary status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned, before they can be removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.0 'C' average is required for the work taken at this University.

In computing students' grade point averages all grades of A, B, C, D and F are included in determining the number of calculated hours. Each hour of these grades (1 hour of A is worth 4 grade points) is given its numerical grade points, and the total number of calculated hours is then divided into the total number of grade points to determine the student's grade point average.

Effective with the 1971 summer quarter, all earned grades carrying grade point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken during the 1971 summer quarter and thereafter. When computing averages through the 1971 spring quarter, the policy contained in the 1970-71 Undergraduate Catalog is followed.

Students who wish to transfer from one SIUC unit to another, who have less than a 'C' (2.0) grade point average, will be admitted to the new academic unit only if approved by the dean of that unit.

SCHOLASTIC PROBATION AND SUSPENSION SYSTEM

Students are expected to make satisfactory progress toward a degree, certificate, or other approved objective. To ensure that students are making progress, their records are checked against the regulations below.

SCHOLASTIC PROBATION

When a student's cumulative semester average and the cumulative SIUC average fall below a 'C' average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at Southern Illinois University at Carbondale provided the student does not accumulate six negative points. The student with more than six negative points will not be suspended so long as the term average is 'C' (2.0) or above. A student will remain in the category of scholastic probation until the cumulative SIUC average is 'C' (2.0) or higher.

While on scholastic probation, students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Other limitations may be established by the academic unit within the students are enrolled.

SCHOLASTIC SUSPENSION

Students will be scholastically suspended from Southern Illinois University at Carbondale if they fail to meet the requirements of their probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Some academic units have scholastic requirements in addition to the overall University requirements listed here. Students must learn and comply with the University requirements as well as those requirements applying to the individual schools and colleges.

BASIC GRADUATION REQUIREMENTS

All students are expected to complete the following basic requirements for the bachelor's degree from Southern Illinois University at Carbondale.

1. A minimum of 120 semester hours of credit in approved courses.
2. The last 30 semester hours must be earned in residence at SIUC if a student has transferred from another school.
3. An overall 'C' average and at least a 'C' average in the major. The average requirements apply to work taken at Southern Illinois University at Carbondale. The University does not carry the transfer grade point average.
4. Completion of general studies requirements, upper division unit requirements, and the requirements of the student's major and minor concentration.

The following two special regulations apply to students who transfer from two-year institutions:

1. The credit accepted from accredited two-year institutions is limited only by the provision that 60 semester hours must be taken at SIUC or at any other approved four-year institution, except that the residence requirement must be met. Credit for work experience, CLEP, military credit, and proficiency examination credit awarded by an accredited senior level institution are counted toward the 60 hour requirement.
2. An associate degree in a baccalaureate-oriented program from an accredited institution will be accepted as meeting all of the General Education requirements of Southern Illinois University at Carbondale. The degree will not, however, waive specific academic unit or major and minor requirements which may be offered via General Education courses.

UNIT OF CREDIT

Southern Illinois University at Carbondale converted from the quarter system to a semester calendar effective fall 1974. All references to hours of credit in this publication are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of a laboratory and activity courses, the stated additional time.

CLASS STANDING

Southern Illinois University at Carbondale requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes, a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 to 85; and a senior 86 or more.

ACADEMIC LOAD

The normal academic load for undergraduate students is 15-16 hours. The maximum is 18 hours, 21 with a Dean's approval.

The University considers 12 hours as the minimum number to constitute full-time attendance for undergraduate students. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Financial Aid Office.

Students on scholastic probation may not take more than 14 hours without approval of the head of their academic unit. Students employed full-time may not register for more than eight hours.

GENERAL EDUCATION FOR THE TRANSFER STUDENT

A transfer student with an associate degree in a baccalaureate-oriented program from an accredited Illinois two-year institution will be accepted as meeting all of the General Education requirements of Southern Illinois University at Carbondale. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to have comparable subject areas and credit hours, and is considered baccalaureate-oriented, the same benefits will be extended to these graduates. The degree will not, however, waive specific academic unit or major and minor requirements which may be offered via General Education courses. A transfer student without this degree who expects to graduate from SIUC must meet the General Education requirements. These requirements need not be completed prior to transfer but must be fulfilled to meet the general graduation requirements.

NEW General Education Requirements -- For students who began college Fall 1985 or later. An additional change was made effective with the 1988 summer semester. GED 102 replaced GED 117, 118 and 119. This change increased the English Composition requirement from 5 to 6 semester hours, the GED area requirements from 11 to 12 hours, and the total General Education Program requirement from 45 to 46 semester hours.

AREA A: Our Physical Environment and Biological Inheritance 9

Core: Select one 3-hour course from each of the following two groupings:

1. GEA 101 or GEA 106 or GEA 110
2. GEA 115 or GEA 117 or GEA 118

Elective: One additional course selected from any courses listed in GEA electives.

AREA B: Our Social Inheritance and Social Responsibilities 9

Core: Select one 3-hour course from two of the following three groupings:

1. GEB 103 or GEB 104 or GEB 105
2. GEB 114 or GEB 211
3. GEB 108 or GEB 202

Elective: One additional course selected from any courses listed in GEB electives.

AREA C: Our Insights and Appreciations 9

Core: Select one 3-hour course from two of the following three groupings:

1. GEC 100 or GEC 101
2. GEC 102 or GEC 208
3. GEC 122 or GEC 330

Elective: One additional course selected from any courses listed in GEC electives.

Additional coursework from Areas A, B, or C 3

Students must complete a total of 30 semester hours in Areas A, B, and C. Within each area, they must complete a minimum of 9 semester hours with the required distributions. The remaining three semester hours may be selected from any coursework offered in Areas A, B, or C or from the approved substitution list which has not already been counted for General Education.

AREA D: Organization and Communication of Ideas 12

Composition: GED 101 and GED 102. GED 120, if completed with a grade of C or better, will also complete the composition requirement. GED 101 must be completed with a grade of C.

Speech: GED 152 or GED 153 3

Mathematics: GED 107 3

Mathematics 114 will also complete the mathematics requirement.

AREA E: Human Health and Well Being 4

GEE 107 or GEE 201 or GED 236 2

Two hours selected from physical education activity courses offered in GEE 2

TOTAL 46

Some programs and upper division academic units require specific General Education courses, particularly in English composition.

OLD General Education Requirements -- For students who began college prior to Fall 1985.

The General Education Curriculum for the baccalaureate degree is divided into five major areas; the requirements in each area are as follows.

AREA A Our Physical Environment and Biological Inheritance	9
AREA B Our Social Inheritance and Social Responsibilities	9
AREA C Our Insights and Appreciations	9
Additional coursework from Areas A, B, and/or C	3
AREA D Organization and Communication of Ideas	11
AREA E Human Health and Well Being	<u>4</u>
TOTAL	45

Students must complete a total of 30 semester hours in Areas A, B, and C. Within each area, they must complete a minimum of 9 semester hours, and they must include coursework from at least 3 different disciplines in each Area. The remaining 3 semester hours may include coursework from any one of Areas A, B, or C, or from any combination of these three Areas.

Within Area D, the following are required: 5 semester hours of English composition; 4 semester hours of mathematics; and 2 semester hours of speech or other oral communication as offered in Area D. Some programs and upper division academic units have specific requirements for demonstration of competence in English composition. A student may determine which programs or units have this requirement by referring to college and school requirements listed in Chapter 4 of the University Catalog.

In Area E, the courses taken must include more than one activity or subject. Prospective teachers should also check the section in the University Catalog titled Professional Education Experiences to determine if Health Education coursework should be included in their four hours of Area E requirements.

Area A: Our Physical Environment and Biological Inheritance (GEA)

Area Requirements. A transfer student needs a total of no less than 9 semester hours of acceptable college level work in the area of science. A minimum of three different disciplines must be represented within this 9 hour block.

Courses which regularly count within this area are chemistry, physics, earth science, geology, botany, zoology, biological sciences, physical sciences, physical geography, a basic course in physiology, a basic course in astronomy, a general course in microbiology. (Technical physics may also be counted in this area).

Course-Hours

101	3	Conceptual Insights into Modern Communications Systems: From Hi-Fi Sound to Laser Beams
106	3	Chemistry for Non-Science Majors
110	3	Earth Science
115	3	Biology
117	3	Botany: Plants and Society
118	4	Introductory Zoology
202	3	Space Science - Astronomy
221	3	Survival of Man
230	3	Energy and the Future
240	3	Ecology
312	3	Conservation of Natural Resources
330	3	Weather

Area B: Our Social Inheritance and Social Responsibilities (GEB)

Area Requirements. In the area of social studies a transfer student needs no less than 9 semester hours of acceptable work within a minimum of three different disciplines represented.

Courses which regularly count within this area are introductory courses in sociology, psychology, economics, government, political science, global or economic geography, anthropology, American, world, or European history.

Course-Hours

102	3	The Western World
103	3	Geography of the Human Environment
104	3	The Human Experience: Anthropology
105	3	The Contemporary World
108	3	The Sociological Perspective
112	3	Comparative Economic Systems
114	3	Introduction to American Government and Politics
202	3	Introduction to Psychology
205	3	Consumer Decision-Making
211	3	Contemporary Economics
215	3	Comparative Race and Ethnic Relations
221	3	Survival of Man
250	3	Politics in Foreign Nations
262	3	Marriage and Family in Contemporary Society
301	3	Modern America from 1877 to the Present

Area C: Our Insights and Appreciations (GEC)

Area Requirements. A transfer student needs a total of no less than 9 semester hours of acceptable college level work in the area of humanities. A minimum of three different disciplines must be presented within this 9 hour block.

Courses which regularly count within this area are in art and music appreciation, art and music history, survey courses in humanities, philosophy, oral interpretation of literature, survey literature courses such as poetry, fiction, modern literature, English and American literature.

NOTE: A student may substitute on an hour-for-hour basis a maximum of 4 semester hours of foreign language counting as one discipline toward the Area C requirement.

Course-Hours

100	3	Music Understanding
101	3	Introduction to Art
102	3	Problems in Philosophy
103	3	Introduction to Theater
104	3	Moral Decision
122	3	Appreciation of Literature
200	3	Oral Interpretation of Literature
204	3	Meaning in the Visual Arts
205	3	Innovation for the Contemporary Environment
208	3	Elementary Logic
213	3	East Asian Civilization
215	3	Types of Religion
221	3	Survival of Man
230	3	Classical Civilization
330	3	Classical Mythology
340	3	The Western Cultural Tradition
345	3	Literature and the Modern World

Area D: Organization and Communication of Ideas (GED)

Area Requirements. A transfer student needs a total of no less than 12 semester hours of acceptable college level work in the area of communications. Within Area D, the following are required: 6 semester hours of English composition; 4 semester hours of mathematics; and 2 semester hours of speech or other oral communication as offered in Area D. Some programs and upper division units have specific requirements for demonstration of competence in English composition. Students should consult the University Catalog to determine Area D requirements of the various schools and colleges at SIUC.

Course-Hours

101	3	English Composition
102	3	English Composition II
107	3	Intermediate Algebra
120	3	Freshman Honors Composition
152	3	Interpersonal Communication
153	3	Public Speaking

Area E: Human Health and Well-Being (GEE)

Area Requirements. A transfer student needs a total of no less than 4 semester hours of acceptable college level work in Health and/or Physical Education. The courses taken must include more than one activity or subject. Prospective teachers should consult College of Education requirements to determine if Health Education coursework must be included in the four hour Area E requirement.

Course-Hours

100	1 to 4	Restricted Physical Education
*101	1 to 24	Aquatics
*102	1 to 10	Physical Fitness
*103	1 to 16	Dance
*104	1 to 34	Individual and Dual Activities
*105	1 to 12	Team Activities
*106	1 to 6	Martial Arts
107	2	Life, Leisure and Recreation
*114	1 to 4	Intermediate Individual and Dual Activities
201	2	Healthful Living
236	2	Nutritional Ecology

*Consult SIUC Undergraduate Catalog to determine various activities.

Special Note: Veterans may qualify for Area E credit for their military experience. See section on Evaluation of Credit.

Miscellaneous

The preceding General Education requirements are not applicable to community college transfer students who have received an associate degree within an acceptable baccalaureate oriented program. This degree will automatically satisfy all General Education requirements, but will not necessarily satisfy departmental prerequisite lower division courses required of the student's major area.

Students may satisfy some General Education requirements by making certain approved substitutions of departmental courses for specified General Education courses.

Any student who feels qualified to take a proficiency examination is eligible to apply. Credit is given to students passing proficiency exams. Credit by proficiency cannot exceed 30 semester hours. Application for proficiency exam should be initiated at the appropriate department.

Proficiency credit granted by other regionally accredited institutions will be recognized. Special regulations apply to proficiency credit earned through the College Level Examination Program (CLEP). See section on Evaluation of Transferred Credit.

APPROVED SUBSTITUTES

The departmental courses which have been approved as substitutions for General Education courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable General Education course.

General Education Course	Approved Substitutes
GEA 101-3	One of: Physics 203, 205 or 3 semester hours of technical physics.
GEA 106-3	One of: Chemistry 115, 140, 222, or 4 semester hours of technical chemistry
GEA 110-3	Geology 220
GEA 115-3	One of: Biology 306, 308, 309
GEA 117-3	Botany 200
GEA 202-3	Physics 203b or 205b
GEA 240-3	Biology 307
GEA 330-3	Military Credit for Meteorology
GEA unassigned-3,6,9	Three, six, or nine semester hours from University Honors 251a and/or 351a
GEB 103-3	Geography 300
GEB 211-3	One of: Agribusiness Economics 204; Economics 214, 215
GEB unassigned-3,6,9	Three, six or nine semester hours from University Honors 251b and/or 351b
GEC 100-3	Music 101 or three hours of 102, 013, 014, 017, 020, 021, or 022
GEC 101-3	Art 100
GEC 204-3	Art 207
GEC Elective Area	A student with a full year (or its equivalent) of study in a single foreign language may substitute up to (4) hours in General Education Area (C).
GEC unassigned-3,6,9	Three, six or nine semester hours from University Honors 251c and/or 351c
GEA/B/C unassigned-3	Three hours for University Honors 351a/b/c or 351 a/b/c
GED 101-3	Linguistics 101
GED 102-3	Linguistics 105
GED 107-3	One of: Mathematics 108, 109, 111, 114, 116, 117, 139, 140, 150, 151, 159, 250, 259, or 4 semester hours of technical mathematics at the level of intermediate algebra
GED 117-2	Linguistics 102
GED 118-2	One of: Linguistics 103 or 2 semester hours of technical writing
GEE 101-114-1 to 2	Two semester hours from: Physical Education 115, 116, 117, 118, 119, 120, 170
GEE unassigned-1 to 2	One to two semester hours from University Honors 251e and/or 351e
GEE 201-2	Health Education 350
GEE activity unassigned-1 to 2	ROTC Field Training

A maximum of 15 semester hours of comparable technical coursework can be substituted for General Education requirements.

EVALUATION OF TRANSFER CREDIT

Transfer credit for students admitted to the University is evaluated for acceptance toward University and General Education requirements by the Office of Admissions and Records after the admission decision has been made. All credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state including that which is vocational, occupational, technical, or terminal is accepted at the time of admission. Courses which are remedial or developmental will not be accepted for transfer. The Office of Admissions and Records will determine the acceptance of credit and its applicability toward completion of University and General Education requirements of any transfer work which is used in the admission decision. Although transfer credit from both baccalaureate and non-baccalaureate programs may be considered in the admission process, the acceptance of such credit toward specific program requirements will be made by the department or agency directing the program.

All credit which is accepted and which is not applied to General Education requirements or to a specific program will be considered elective credit. The decision will be made depending upon the program the student has completed and the program entered at Southern Illinois University at Carbondale. A student should not expect to receive credit if the transfer work was taken at a school which is not regionally accredited and whose credit is not accepted by the reporting institution in the state.

Completion of an associate degree in a baccalaureate oriented program in an accredited Illinois two-year institution provides that the student will: a) be accepted with junior standing and b) be considered to have completed the General Education requirements. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to have comparable subject areas and credit hours, and to be baccalaureate-oriented, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Transcripts and Test Scores

Transfer students who have taken college level work at other institutions must have official transcripts of all work forwarded to the Admissions and Records Office. An official transcript from each college or university attended must be submitted. Failure to comply with this ruling, failure to indicate all institutions attended, or incorrect information regarding status at the other institutions can result in withdrawal of admission or dismissal for the student.

Transfer students who might qualify for advance standing must have both their ACT profile and their high school transcripts available in the Undergraduate Academic Services office. It is the student's responsibility to see that these items are submitted. If credit for a General CLEP exam (except English) appears in another college's transcript, credit will be evaluated at SIUC. For the General English CLEP credit to be evaluated, transfer students must submit official scores of the General Examination of the College Level Examination Program (CLEP). Also, credit possibilities based upon formal service-school training programs, USAFI courses, and military experience will be evaluated upon submitting required papers.

Transfer students may be admitted and their work tentatively evaluated on the basis of a partial or incomplete transcript. If the final and complete transcript is not submitted, the student will not be allowed to register for a second semester of attendance. It should be noted that it is the student's responsibility to request transcripts be sent to the Admissions Office.

NOTE: If the evaluation appears to be in error, the student and/or his or her advisor should contact the Office of Admissions and Records.

Status of Institution

The annual publications entitled Transfer Credit and Practices of Selected Educational Institutions published by the AACRAO and Accredited Institutions of Higher Education published by ACE are used for guidance relative to the status of institutions for credit acceptance purposes.

Non-Regionally Accredited

For students who transfer from non-baccalaureate programs in non-regionally accredited institutions, special regulations also apply.

Occupational work taken from a non-regionally accredited institution presented by a student with an associate degree or equivalent and with a 'C' average will be evaluated as stated previously.

There is no provision for the granting of credit, except via proficiency examinations or by individual review by the academic unit the student enters, for students coming from a non-regionally accredited institution without the associate degree or equivalent or with less than a 'C' average.

All accepted occupational and technical credit will be examined by the department of the student's intended major to determine its applicability toward meeting degree requirements.

Foreign Schools

All work completed at foreign schools must be evaluated through the Admissions Office. Work is evaluated course by course. Courses must be considered equivalent in content to courses at SIUC before credit can be granted. Non-General Education credit will be evaluated by the department under question to determine its acceptability. Students who are transferring work from universities outside the U.S.A. are advised to bring with them official and detailed descriptions of those courses.

Undergraduate applicants must submit official transcripts of records from all secondary or middle schools and all universities, colleges, or professional schools attended. Secondary school records are not required from those who have earned a bachelor's degree or the equivalent thereof and are applying to the graduate school. Records must list subjects taken each year, along with the grades or marks received. Each transcript must include a complete list of all courses taken at that institution and the grade received. There should also be included a description of the grading system of each institution attended and, if possible, a statement of the student's scholastic rank in his or her graduating class.

Extension, Correspondence, Pass/Fail, Advance Standing, Proficiency

Work taken by extension or correspondence at regionally accredited institutions is accepted unconditionally toward the baccalaureate degree. No more than 30 hours may be in correspondence work. Correspondence work must carry a 'C' or better.

'D' Work

Hours of 'D' will be accepted under the same conditions as all other credits except for correspondence work as above.

Military Experience

Credit for military experience may be granted as follows:

Service of one year or more of active duty and honorable discharge allows six semester hours including two in physical education, two in health education, and two in aerospace studies.

Service of six months to a year may result in two hours in freshman aerospace studies or Army Military Science.

Service of less than six months allows no college credit.

Credit will be accepted for DANTES Subject Standard Tests within the limitations enforced for proficiency credit. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, Guide to the Evaluation of Educational Experiences in the Armed Forces, are followed. In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records.

Preparatory or Developmental Courses

Grades and credit for preparatory or developmental courses will not be used for admission or evaluation purposes.

Repeating Courses and the GPA

For both admission and evaluation purposes grades earned in repeated course work will be averaged.

The University does not include an entering transfer's grade point average together with the SIUC GPA; rather, a student's GPA is based solely on work taken at SIUC.

PRE-PROFESSIONAL PROGRAMS

A program of study called "pre-professional" does not lead to a degree at SIUC. Pre-professional students who will be on campus longer than two years should enroll as double majors and enter the college which grants a degree in the second major. Students without an additional major will be enrolled in the College of Liberal Arts (pre-law and pre-theology majors), Undergraduate Academic Services (pre-nursing majors), or College of Science (other health career majors). Pre-professional programs are available in the following areas:

Dentistry (3 or 4 years)	Pharmacy (1 or 2 years)
Law (3 or 4 years)	Physical Therapy (2 to 4 years)
Medicine (including Osteopathic) (4 years)	Podiatry (3 to 4 years)*
Nursing (3 or 4 semesters)	Theology (2 to 4 years)*
Optometry (3 or 4 years)	Veterinary Medicine (3 or 4 years)

In addition to these pre-professional programs, the University offers professional curricula in engineering and law (Carbondale), medicine (Carbondale and Springfield), and dentistry and nursing (Edwardsville).

Pre-professional students may, subject to certain conditions, obtain a bachelor's degree after three years of work (90 semester hours) at SIUC plus one or more years of work in a professional school. During the three years at SIUC, the students must complete all requirements (other than elective hours) for the particular bachelor's degrees they are seeking.

In some cases, students may complete requirements for a major at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, there needs to be completion of at least one year of professional work with acceptable grades in an accredited dental, law, optometry, podiatry, or veterinary school.

In all cases, SIUC graduation requirements must be met. Students must make the decision to seek a bachelor's degree before entering the professional school so that questions can be clarified early.

Students should be aware that the Testing Office schedules aptitude and/or admission tests for some professions; pre-registration is necessary for these tests.

*Recommended program not listed.

UNDERGRADUATE ACADEMIC SERVICES

Generally concerned with the freshmen and sophomore years, Undergraduate Academic Services offers academic support programs designed to enhance opportunities for success for all its students.

Pre-Major Advisement Center

Pre-Major Advisement is the academic home for all students who wish to explore one, two, or several major fields before choosing their career goals. The Pre-Major Advisement Center provides each student with an experienced academic advisor who knows the requirements for all major programs and who will offer assistance in selecting an appropriate course of study.

Special Major

A student whose academic needs are not met by existing baccalaureate programs may arrange a special undergraduate degree program in lieu of a standard curriculum. For guidelines inquire at the office of the Associate Director for Advisement and Special Programs, Undergraduate Academic Services.

University Studies Program

The University Studies Program exists for those students who wish to take a broader approach to their education by not specializing. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

Students interested in the University Studies Program may pick up the guidelines at Woody Hall C-117. After ascertaining eligibility for the program, the student should then consult with the University Studies advisor or the Associate Director for Advisement and Special Programs, Undergraduate Academic Services.

Center for Basic Skills

The Center for Basic Skills offers special academic assistance through a non-credit learning skills class and laboratory, academic monitoring and counseling, small group and individual tutorials. Although participation for some students may be required, any student is welcome to take advantage of this special service at no cost as resources permit. Students should direct inquiries to the Director of the Center for Basic Skills.

COLLEGE OF AGRICULTURE

You want to be a part of an exciting, dynamic, fast-growing, high-technology industry, but you are not sure where you might fit into American Agriculture? Be assured this diverse, complex, science-based industry has room for you, and it needs your abilities. The College of Agriculture at SIUC, through programs in Agriculture, Forestry, and Food and Nutrition, can be the "open sesame" for you to enter the career of your choice.

For more than a century, America has been moving agricultural jobs from the farms to the cities, the suburbs and rural communities. As a result, the opportunities in agriculture are probably broader than in any other area of employment. No matter what your interests or the type of career you hope to follow, you can find your place in agriculture. Persons trained in agriculture are needed and they can serve humankind as they satisfy themselves. The spectrum of career opportunities for agriculture graduates ranges from the rural producer, through the many processing and distributing occupations, to those who provide services to the agricultural food and natural resource industries.

The curricula of the five departments of the College of Agriculture which are presented on the following pages provide opportunities for students with wide-ranging interests and abilities in the physical, biological, and social sciences. In Agriculture, you learn to apply these basic sciences in helping to solve food, fiber, environmental and ecological problems--whether these problems are found in the local community, state or nation, or in an international or global context.

MAJORS OFFERED:

Agribusiness Economics
Agriculture General
Animal Science

Food and Nutrition
Forestry
Plant and Soil Science

FACILITIES: The offices, classrooms and laboratories for all programs in the College of Agriculture except food and nutrition are in the Agriculture Building. Those for food and nutrition are in Quigley Hall. Additional SIUC-owned facilities devoted to teaching and research in the College of Agriculture include nearly 2,000 acres of farm and timber land, 15,575 square feet of greenhouse space, and special centers devoted to each of four species of livestock.

ACCREDITATION:

North Central Association of Colleges and Schools
American Dietetics Association (for Food & Nutrition)
Society of American Foresters (for Forestry)
National Council for Accreditation of Teacher Education
(for Agricultural Education)
National Association of State Universities and Land-Grant Colleges

UNDERGRADUATE DEGREE OFFERED: Bachelor of Science.

GRADUATE PROGRAMS: The College of Agriculture has programs leading toward the Master of Science degree and a joint program with the Colleges of Science and Education leading to the Ph.D. degree. Many of the programs are mentioned in this section, but there are additional options, available only at the graduate level. For more information, consult with the College of Agriculture, the Graduate School, or the Graduate Catalog.

ORGANIZATIONS: Scholastic and Professional Honoraries: Alpha Zeta (agriculture); Pi Alpha Xi (floriculture and ornamental horticulture), and Xi Sigma Pi (forestry). Special interests: Alpha Gamma Rho Agricultural Fraternity. Departmental: Agbassadors; Agricultural Computer Club; Agricultural Mechanization Club; Agribusiness Economics Club; Agricultural Communicators of Tomorrow; Agriculture Student Advisory Council; Block and Bridle Club; Collegiate FFA; Equine Science Club; Food and Nutrition Council; Forestry Club; Plant and Soil Science Club; Pre-Veterinary Science Club; Society of American Foresters Club; Dairy, Livestock, and Poultry Judging Teams.

TRANSFER STUDENTS: If agriculture is offered for transfer credit at a regionally accredited associate degree granting college, introductory courses in the various fields may be accepted at SIUC in lieu of equivalent courses. For transfer students wishing to pursue a concentration in one of the agricultural, food or forestry areas, courses prior to entering SIUC should include physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and intermediate or college algebra should be included. All majors within the College of Agriculture must have work in: mathematics; botany or zoology or biology; chemistry; economics; and speech.

Persons who have an Associate in Applied Science degree in an occupationally oriented program should inquire into the possibilities of entering the College of Agriculture under the Capstone Program, which is explained in another section of this handbook.

FOR FURTHER INFORMATION:

Assoc. Dean for Instruction
College of Agriculture
Phone (618) 453-2469

New Student Admission Services
Phone (618) 536-4405 (direct)
Phone (800) 642-3531 (toll free)

COLLEGE OF BUSINESS AND ADMINISTRATION

The College of Business and Administration, located in Henry J. Rehn Hall, aims to prepare students to perform successfully in business and other organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institutions. The advanced curriculum, computer experience, and internship programs provide students not only with a meaningful education but with a means of relating that education to organizations and commerce.

ACCREDITATION: American Assembly of Collegiate Schools of Business (AACSB), and North Central Association of Colleges and Schools.

DEGREES OFFERED: Bachelor of Science.

Accounting	Management
Business and Administration	Entrepreneurship
Business Economics	Management
Finance	Marketing
Financial Institutions	
Financial Management	

GRADUATE PROGRAM: The College of Business and Administration offers the Master of Business Administration (M.B.A.), Master of Accountancy (M.Acc.), and Doctor of Business Administration (D.B.A.) degrees.

ORGANIZATIONS: Scholastic and Professional Honoraries: Alpha Kappa Psi (Business), Beta Alpha Psi (Accounting), Beta Gamma Sigma (Business), Phi Gamma Nu (Business), Pi Sigma Epsilon (Marketing), and the Society for Advancement of Management (SAM) and American Marketing Association (AMA). Departmental: Concerned Professional Accountants, American Marketing Association, College of Business and Administration Student Council, Financial Management Society.

RETENTION POLICY: In order to continue enrollment in a major offered by the College of Business and Administration, students must maintain a 2.20 Southern Illinois University cumulative grade point average. Students must also complete the following nine courses with an overall 'C' average before attaining junior status (56 semester hours). It is also necessary for students to have completed with a grade of 'C' or better seven of these nine courses. The nine retention courses or the equivalencies are GED 101; GEB 202; Mathematics 139 and 140; Economics 208 and 214; Accounting 220 and 230; and Computer Science 212 or Computer Information Processing 229.

TRANSFER STUDENTS: The College of Business and Administration will accept college level credit earned in business and economics courses from any accredited two- or four-year institution toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore) level at the institution where taken, only courses shown below will be accepted as substitutions for college required courses.¹

Courses	Semester Hours
Principles of accounting	6.0
Cost accounting	3.0
Economic principles	6.0
Business/economic statistics	3.0
(where college algebra is a prerequisite)	
Basic computer course ²	3.0
Legal and Social Environment of Business	3.0

Students also have the opportunity of validating additional coursework and nothing in the above statement abridges a student's right to satisfy graduation requirements by proficiency (or competency) examinations. Such examinations are treated as a student right by the college and are available for most courses.

¹At least 40% of the coursework of all business majors, but not more than 60%, must be in Economics and Business prefix courses. This is called the 40% rule.

²Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration's core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration. In this approved course, students should complete instruction in at least these two components: a database and spreadsheets.

COLLEGIATE WARNING: Students who do not achieve an accumulative 2.20 SIUC grade point average in any semester or who fail to meet the retention course requirements as described above are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.20 SIUC grade point average in a subsequent semester will be placed on a status of collegiate dismissal.

A student who has been placed on collegiate dismissal will be transferred to Undergraduate Academic Services or may seek transfer to another University program if the student has a cumulative SIUC grade point average of 2.00. Students who are placed on collegiate dismissal and have less than a cumulative 2.00 University grade point average for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

FIRST COLLEGIATE DISMISSAL: The student on collegiate dismissal may not be readmitted to the college until the student has interrupted education in the college for a minimum of two semesters and shows evidence that the program of study can be successfully completed. For this purpose, summer session will be considered a semester. After the two term interruption, the student may apply to the college Scholastic Committee for readmission. In this petition, the student should supply written evidence to include: 1) any extraordinary circumstances that contributed to the collegiate dismissal; 2) why the student thinks there is a reasonable chance to succeed in studies; and 3) what the student was doing during the interruption period that will contribute to further success.

Insufficient documentation to justify the request will result in denial of the request for that semester.

Business students on collegiate dismissal but eligible to continue at the University may be readmitted in certain cases upon approval of the Scholastic Committee without the two semester interruption.

SECOND AND SUBSEQUENT DISMISSALS: A student on collegiate dismissal for a second or subsequent time may apply for readmission after an interval of no less than two calendar years. There are no exceptions. Students requesting readmission who have been on dismissal two or more times must be referred to the Scholastic Committee as described above.

ADMISSION TO BUSINESS AND ADMINISTRATION CLASSES: Students who are on collegiate dismissal but eligible to continue at Southern Illinois University at Carbondale can take only the following business courses while on collegiate dismissal: ACCT 220, 230, and ECON/MGMT 208 and 214, 215. Students are not restricted from taking other required non-business courses.

COLLEGE OF COMMUNICATIONS AND FINE ARTS

The College of Communications and Fine Arts and is comprised of eight academic units:

School of Art and Design
Department of Cinema and Photography
Department of Communication Disorders and Sciences
School of Journalism
School of Music
Department of Radio-Television
Department of Speech Communication
Department of Theater

More complete information about the programs offered in each of these academic units is provided under the departmental description.

Three service units are housed in the College:

The DAILY EGYPTIAN, a daily student newspaper with a circulation of 27,000.

The Broadcasting Service, operating WSIU(FM), a public radio station; and WSIU(TV), Carbondale, and WUSI(TV), Olney, public television stations.

The University Museum.

Admission to the University is handled through the Office of Admissions and Records, but those students who desire more specific information about a major should make an appointment with an academic advisor of that department or school. Each department or school of the college has one or more individuals who will advise prospective students about major requirements, curriculum, activities, careers, and opportunities. Transfer students may also discuss transfer credit and placement in courses at Southern Illinois University at Carbondale.

Faculty of the college are engaged in research/creative activities concerning communications and the arts. They also provide consulting service and other communication services to schools, newspapers, radio and television stations, museums, arts centers, businesses, and governments. They hold professional memberships and serve as officers in various local, state, national, and international organizations in the communications media and in the arts. A number of special events are presented each year, including lectures by noted artists, music performances, dramatic presentations, art and photography exhibits, and film showings.

DEGREES OFFERED:

Bachelor of Fine Arts - Art
Bachelor of Arts - Art, Cinema and Photography, Design,
Music, Theater, Radio-Television, Speech
Bachelor of Music
Bachelor of Science - Communication Disorders and Sciences,
Journalism, and Speech Communication

GRADUATE PROGRAMS: Master of Arts degree in Journalism, Speech Communication and Telecommunications; Master of Science in Communication Disorders and Sciences, Journalism, and Speech Communication; Master of Music degree in Music; Master of Music Education degree in Music; Master of Fine Arts degree in Art and Cinema and Photography; Doctorate of Philosophy degree in Communication Disorders and Sciences, Journalism, Speech Communication and Theater.

For specific information concerning graduate work, a student should consult the department of interest in the College of Communications and Fine Arts and the Graduate School.

FOR FURTHER INFORMATION:

Chief Academic Advisor
College of Communications and Fine Arts
Phone (618) 453-4308

New Student Admission Services
Phone (618) 536-4405 (direct)
Phone (800) 642-3531 (toll free)

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

COLLEGE OF EDUCATION

Preparation of teachers of all subjects taught in the public schools from pre-school through high school is the special function of the College of Education. In its graduate offerings, however, it broadens its efforts to include professional work for prospective college teachers and several specializations in school administration and supervision.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University. Today the College is comprised of eight academic departments: Curriculum Instruction and Media; Educational Administration and Higher Education; Educational Psychology; Health Education; Physical Education; Recreation; Special Education; and Vocational Education Studies.

TEACHER EDUCATION PROGRAM APPROVAL: Each of the specializations in teacher education noted in this Conselor's Advisement Catalog has continuing approval from the Illinois State Teacher Certification Board.

ACCREDITATION: North Central Association of Colleges and Schools and the National Council for Accreditation of Teacher Education.

DEGREES OFFERED: Bachelor of Sciece.

GRADUATE PROGRAMS: Students can continue on the graduate level of the above programs and in some areas not listed. For more specific information, a student should consult with the College of Education and the Graduate School, and read the Graduate Catalog.

ORGANIZATIONS: Scholastic and Professional Honoraries: Kappa Delta Pi, Phi Delta Kappa, Pi Lambda Theta, Pi Omega Pi, Delta Pi Epsilon, Eta Sigma Gamma, and Alpha Lambda Delta. Departmental: Association of Childhood Education International, Council for Exceptional Children, Recreation Club, Student Education Association, Women's Recreation Association, Phi Beta Lambda, PE Majors Club, Vocational Education Studies Graduate Association, Illinois Vocational Home Economics Teachers Association, and Iota Lambda Sigma.

TRANSFER STUDENTS: Students preparing to teach should familiarize themselves with all the specific requirements and prerequisites for teacher certification. Also, admission to the University or to an academic unit does not admit a student to the formal Teacher Education Program (see Transfer Admissions-Eligibility).

One hundred clock hours of supervised pre-student teaching clinical experiences are required of all Teacher Education candidates. These hours are included in Education 310, 311, 314, 315 and 316, and are primarily planned for the junior and senior professional level of the program. Articulation of courses with Illinois community colleges provides a mechanism for some of the clock hours to be obtained prior to entering SIUC. Prospective students are encouraged to check for articulation of these courses prior to enrollment in similar community college courses.

Students are also required to have the equivalent of a three semester hour course on the characteristics of handicapped children and youth, and methodology for teaching the handicapped including the learning disabled. These requirements are also included in EDUC 310, 311, 314, 315 and 316 as well as methods and clinical experiences. For students who attended community colleges which have not articulated this requirement in equivalent courses, SPE 408 may be taken at SIUC. Further information on articulation of courses may be obtained from the Coordinator of Teacher Education Services, College of Education, Wham Education Building, Room 135.

Students wanting to transfer occupational credit into the College of Education should consult a program coordinator in the Department of Vocational Education Studies to determine possible applicability of this credit toward meeting degree requirements.

FOR FURTHER INFORMATION:

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Admissions Office
Woody Hall
Phone - 618-453-4381

Southern Illinois University at Carbondale
Carbondale, Illinois 62901

SECONDARY EDUCATION

Students who elect to pursue a Bachelor of Science degree in the College of Education, for purposes of preparing to teach in junior or senior high schools, should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois University has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

<u>Teaching Area</u>	<u>Major</u>	<u>Minor</u> ¹
Agricultural Education	X	
Art ²	X	
Biological Sciences	X	X
Black American Studies		X
Chemistry	X	X
Earth Science		X
Educational Media		X
English	X	X
Foreign Languages	X	X
Geography	X	X
Health Education ⁴	X	
History	X	X
Home Economics Education	X	
Language Arts (English and Reading)	X	
Mathematics	X	X
Microbiology		X
Music ²	X	X
Vocational Education Studies	X	
(Business Education)		
(Health Occupations)		
(Home Economics Education)		
(Industrial Education)		
Philosophy		X
Physical Education	X	X
Physics	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Speech Communication	X	X
Theater		X
Zoology ³	X	X

¹ All minors used for certification purposes must include a minimum of 18 semester hours.

² K-12 certification which includes secondary.

³ A student with a major in zoology should have a minor in botany in order to meet certification standards for teaching biology at the high school level.

⁴ Driver Education is offered for certification purposes in the Department of Health Education.

Jacquelyn Bailey
 Chief Academic Advisor
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

COLLEGE OF ENGINEERING AND TECHNOLOGY

The curricula in the College of Engineering and Technology are designed to provide instruction and to stimulate research. Attention is given to theories and their applications, and to creative and practical aspects.

ACCREDITATION: North Central Association of Colleges and Schools; the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET) for the Engineering programs, and the Technology Accreditation Commission of ABET for the Engineering Technology programs; National Association of Industrial Technology for Industrial Technology.

DEGREES OFFERED:

- Bachelor of Science - Civil Engineering
- Bachelor of Science - Electrical Engineering
- Bachelor of Science - Mechanical Engineering
- Bachelor of Science - Mining Engineering
- Bachelor of Science - Engineering and Technology
- Bachelor of Science - Industrial Technology

GRADUATE PROGRAMS: Master's degree work is available in a number of specialties in engineering, mining engineering and manufacturing systems. A Ph.D. program in Engineering Science is also available. For specific information concerning advanced degree work, a student should consult the College of Engineering and Technology, the Graduate School and the Graduate Catalog.

ADMISSION TO ENGINEERING PROGRAMS: Admission requirements for freshmen, transfer, and international students are under "Admission Policies and Requirements."

RETENTION POLICY IN THE COLLEGE OF ENGINEERING AND TECHNOLOGY

Students in the College of Engineering and Technology are required to maintain a 2.0 grade point average in their major at all times. Students who do not meet this requirement are subject to collegiate warning. Students on collegiate warning who do not meet College retention standards are subject to collegiate dismissal. Admissions standards in the College require pre-engineering students to fulfill specific requirements to remain in good standing. Students who do not meet these requirements will be covered by the Collegiate Warning/Dismissal Policy.

TRANSFER STUDENTS: Students should note that the minimum mathematics requirement for baccalaureate degrees in the College of Engineering and Technology will vary, depending upon the curriculum followed. Prospective transfer students should study the following pages carefully. Students planning to transfer occupational credit toward a degree in industrial technology should consult with the Department of Technology concerning the applicability of such credit toward meeting degree requirements.

Graduates of occupationally-oriented programs should inquire into the possibilities of entering the College of Engineering and Technology in the Industrial Technology major under the Capstone Project. Requirements of this special program are mentioned in another section of this handbook.

FOR FURTHER INFORMATION:

Dean
College of Engineering and Technology
Phone: 618-453-4321

COLLEGE OF HUMAN RESOURCES

The College of Human Resources offers the following majors leading to the Bachelor of Science degree:

Administration of Justice
Social Work

No specific unit requirements. Consult degree programs in catalog and handbook for specific degree requirements.

COLLEGE OF LIBERAL ARTS

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts and Bachelor of Science degrees. Separate minors are listed and others are possible in most of these areas.

African Studies ¹	Foreign Language and International Trade	Museum Studies ¹
Anthropology		Paralegal Studies
Asian Studies ¹	French	Philosophy
Chinese ¹	Geography	Political Science
Classical Civilization ¹	German	Psychology
Classics	Greek ¹	Religious Studies
Comparative Literature ¹	History	Russian
Computer Science	Japanese ¹	Sociology
Earth Science ¹	Latin ¹	Spanish
East Asian Civilizations ¹	Linguistics ¹	Speech Communication ²
Economics	Mathematics	Uncommon Languages ¹
English		

¹Minor only.

²Liberal Arts major, not professional major.

College Requirements Effective Fall, 1978

Students beginning college anywhere Fall 1978 or later must satisfy the following requirements:

1. University requirements including those relating to General Education, residency, total hours, and grade point average.
2. Successful completion of requirements in an approved major in the College of Liberal Arts.
3. At least 40 hours of coursework at the 300- or 400-level.
4. The Liberal Arts student must complete one year of a foreign language. In addition to General Education requirements, he or she must complete one course in either mathematics or computer science and one course in English composition.

Students should consult with an advisor at an early stage in their college career regarding any problems related to these requirements. Students planning to attend graduate school or one of the professional schools such as law or medicine should also consult with their advisors on how best to plan their undergraduate curriculum.

COLLEGE OF SCIENCE

The College of Science offers majors, and in most cases minors, leading to the Bachelor of Arts and Bachelor of Science degrees in the following fields of study:

Biological Sciences
Botany
Chemistry
Geology
Mathematics

Microbiology
Physics
Physiology
Zoology

A minor in Earth Sciences is also offered.

Pre-professional programs are also offered in the following areas:

Dentistry
Medicine
Optometry
Osteopathy

Podiatry
Pharmacy
Physical Therapy
Veterinary Medicine

ACADEMIC REQUIREMENTS:

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail basis.

BIOLOGICAL SCIENCES: Six semester hours in courses offered by the biological sciences departments in the College with the proviso that this requirement cannot be satisfied in whole or in part by General Education courses, but may be substituted for the latter in meeting the General Education requirements.

FOREIGN LANGUAGE: The foreign language requirement can be met by one of the following: a) passing an eight hour, 100-level sequence in one language; b) earning eight hours of 100-level credit in one language by proficiency examination; c) completing three years of one language in high school with no grade lower than 'C'.

A student whose native language is not English may use the native language to satisfy part or all of the science foreign language requirement at Southern Illinois University. If the language is presently taught at SIUC, academic credit may be earned. If the language is not presently taught at SIUC, no credit is given, but partial or full satisfaction of the science foreign language requirement may be granted if the student's major department so recommends. A student whose native language is English but who has learned another language not taught at SIUC may qualify without credit for partial or full satisfaction of the science foreign language requirement under certain circumstances, including formal recommendation by the student's major department and availability of an examiner and examination materials within the Department of Foreign Languages and Literatures. For information, the student should consult the College of Science advisement center.

Four hours of foreign language may substitute for credit in GEC provided the student has taken GEC courses totalling five hours in two other disciplines.

MATHEMATICS: The mathematics requirement can be met by: a) passing Mathematics 108, 109, or 111 or equivalent or Mathematics 140 or b) completing three years of high school mathematics with no grade lower than a 'C' and achieving a score on the University's Mathematics Placement Test which allows the student to enroll directly into Mathematics 150.

PHYSICAL SCIENCES: Six semester hours in courses offered by the physical science departments of the College, with the proviso that the requirement cannot be satisfied in whole or in part by General Education courses, but may be substituted for the latter in meeting the General Education requirements.

GENERAL REQUIREMENTS: At least 40 hours of the student's 120 hours for graduation must be at the 300 or 400 level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students, at least 24 of these hours must be in residence.

COLLEGE OF TECHNICAL CAREERS

The College of Technical Careers, established in 1950, provides baccalaureate majors and unique two-year college-level programs. The associate degree programs qualify students for employment at the semi-professional and technical level in industry, the allied health occupations, and business. A combination of technical courses and general education courses is included in each program to provide a comprehensive preparation for occupational competence.

Scientific and technical changes have increased the possibilities for employment at the technician's level. For every professional person, industry and business require two to seven properly trained technicians.

The College of Technical Careers occupies facilities on the Carbondale campus and on the Carterville campus nine miles east of Carbondale on Old Route 13. Facilities for aviation programs are located at the Southern Illinois Airport, four miles west of Carbondale. The University provides shuttle bus service to the classes at the Carterville campus and airport.

Accreditation: North Central Association of Colleges and Schools; American Board of Funeral Service Education, Commission on Dental Accreditation of the American Dental Association, Committee on Allied Health Education, CAHEA and the Joint Review Committee for Respiratory Therapy Education, National Fire Protection Association, National Shorthand Reporters Association, National Institute for Automotive Service Excellence.

Degrees Offered: Bachelor of Science and Associate in Applied Science.

Bachelor's Degree Programs

Advanced Technical Studies
Aviation Management
Consumer Economics and Family Management
Electronics Management
Fire Science Management (off-campus only)
Health Care Management
Interior Design

Associate in Applied Science Degree Programs

Allied Health Careers Specialties	Dental Technology
Architectural Technology	Electronics Technology
Automotive Technology	Law Enforcement
Aviation Flight	Photographic Production Technology
Aviation Maintenance Technology	Mortuary Science and Funeral Service
Avionics Technology	Office Systems and Specialties
Commercial Graphics-Design	Physical Therapist Assistant
Computer Information Processing	Radiologic Technology
Construction Technology	Respiratory Therapy
Dental Hygiene	Tool and Manufacturing Technology

Organizations

Alpha Eta Rho (International Aviation Fraternity), Phi Beta Lambda (International), Sigma Phi Sigma (Mortuary Science), CTC Electronics Association, Delta Tau-Dental Lab, Junior SIU American Dental Hygiene Association, and Sigma Phi Alpha (Honorary Dental Hygiene Society). Society of Manufacturing Engineers student chapter.

Transfer Students

Transfer credit is evaluated for acceptance towards University and General Education requirements by the Office of Admissions and Records after an admission decision has been made. The evaluation toward satisfying of specific curriculum requirements is done by the department or agency directing the specific curriculum.

The General Education program at CTC includes courses in the social studies (economics, government, and psychology); in the physical sciences (physics, chemistry, and mathematics); and in oral and written communication (speech, English composition, business correspondence, and technical writing).

For further information:

Dean
College of Technical Careers
Phone: 618-453-8818

THE GRADUATE SCHOOL

The primary concern of the Graduate School is graduate instruction and research at Southern Illinois University at Carbondale. The Graduate School therefore plays an essential role in development of instructional and research programs, in acquisition of funds, and in procurement of facilities necessary to encourage and support research by members of its scholarly community. Through students who meet the Graduate School's high standards of achievement of completing advanced courses of study and through students and faculty members who achieve significant results in their research, the Graduate School makes its contribution to the public welfare locally, regionally, nationally, and internationally.

The Graduate School offers master's degrees through 62 programs, the specialist degree in three areas, and the doctoral degree through 25 programs. Under the leadership of a graduate faculty of over 1000 members, research and study by over 3,600 graduate students is promoted. In addition, the Schools of Law and Medicine provide graduate students with excellent opportunities to work with faculty members and students in those professions.

Master's degrees are available in the major fields listed below:

Accountancy (M.Acc.)	Geology
Administration of Justice	Health Education
Agribusiness Economics	Higher Education
Agricultural Education & Mechanization	History
Animal Science	Journalism
Anthropology	Manufacturing Systems
Applied Linguistics	Mathematics
Art (M.F.A.)	Microbiology
Behavior Analysis and Therapy	Mining Engineering
Biological Sciences	Music (M.Mus.)
Botany	Pharmacology
Business Administration (M.B.A.)	Philosophy
Chemistry	Physical Education
Cinema and Photography (M.F.A.)	Physics
Communication Disorders and Sciences	Physiology
Community Development	Plant and Soil Science
Computer Science	Political Science
Curriculum and Instruction	Psychology
Economics	Public Affairs (M.P.A.)
Educational Administration	Recreation
Educational Psychology	Rehabilitation Administration and Services
Engineering	Rehabilitation Counseling
Civil Engineering and Mechanics	Social Work
Electrical Engineering	Sociology
Mechanical Engineering & Energy Processes	Special Education
English	Speech Communication
English as a Foreign Language	Statistics
Foreign Languages & Literatures	Telecommunications
French	Theater (M.F.A.)
German	Vocational Education Studies
Spanish	Zoology
Forestry	
Geography	

Specialist degree programs are available in the fields listed below:

Educational Administration
Educational Psychology
Curriculum and Instruction

Doctor's degrees are available in the fields listed below:

Anthropology	Journalism
Botany	Mathematics
Business Administration (Doctor of Business Administration)	Microbiology
Chemistry	Molecular Science
Communication Disorders and Sciences	Pharmacology
Economics	Philosophy
Education	Physiology
Engineering Science	Political Science
English	Psychology
Geography	Rehabilitation (Doctor of Rehabilitation)
Geology	Sociology
Historical Studies	Speech Communication
	Zoology

The Graduate School, as a part of Southern Illinois University at Carbondale, is fully accredited by the North Central Association of Colleges and Schools, and by various other professional and academic accrediting organizations. Information on the various graduate programs and on admission to the Graduate School can be obtained by writing Graduate School, Southern Illinois University, Carbondale, Illinois 62901. Phone: (618) 536-7791.

SCHOOL OF LAW

Southern Illinois University's School of Law, established in 1973, is fully accredited by the American Bar Association and is a member of the Association of American Law Schools. It is a small law school with approximately 310 students. Approximately 105 students enter the law school each fall. The student/faculty ratio of 13/1 ranks among the best in the United States. The school is housed in a spacious, modern building which contains the classrooms, law library, legal clinic, faculty offices, and student lounges.

The law school offers an extensive curriculum, emphasizing "skills" courses such as legal writing and research, legal argumentation, trial advocacy, client counseling, etc. The school has an active moot court program and a unique legal clinic in which upperclass students gain practical experience in both civil and criminal cases under the supervision of the clinic director. The school is a leader in the fields of environmental law, health law and international law. The school's ABA Moot Court team won the national championship in 1985 and 1986.

The law school, in cooperation with the Graduate School, offers concurrent Juris Doctor and Master's degrees in Business Administration, Public Affairs, and Accountancy. The law school is one of a handful of schools to offer a joint J.D./M.D. degree in conjunction with the SIU School of Medicine.

The law library contains 260,000 volumes--more than in over half the academic law libraries in the country--as well as two computer-assisted research systems (LEXIS and Westlaw). Law students have a key to the building which gives them 24-hour access to the Law Library.

Information on admission to SIU School of Law can be obtained by writing to:

Scott Nichols, Assistant Dean and
Director of Admissions
School of Law
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

NOTE: Information on undergraduate preparation necessary for schools of law is listed under Pre-law in this text.

SCHOOL OF MEDICINE

Southern Illinois University School of Medicine was established in 1970 in response to a need in Illinois for increased opportunities for education in the health fields and the more encompassing need for improvements in the health care delivery system. To have the broadest impact possible on health care in central and southern Illinois, the school is deeply engaged in training men and women who will become practicing physicians with special emphasis on primary care.

The first year is conducted on the campus of SIUC. Students are instructed in the sciences basic to medicine with a strong emphasis on clinical application and medical problem solving. The remaining three years of the program, which leads to the M.D. degree, are increasingly clinical in their emphasis, and are offered in Springfield. This split-campus organization allows the School of Medicine to make full use of available resources in both locations.

Available facilities include the extensive and well-equipped laboratories of Southern Illinois University at Carbondale; the public and private clinical facilities of Carbondale; and St. John's Hospital and Memorial Hospital in Springfield, each of about 700 beds. A new medical school building in Springfield was completed in 1974 in time for the first class transferring from Carbondale. Inquiries on admission should be addressed to:

Asst. Dean of Students/Admissions	or	Asst. Dean of Students/Carbondale
School of Medicine		Lindegren Hall
Southern Illinois University		School of Medicine
P.O. Box 19230		Southern Illinois University
Springfield, IL 62794-9230		at Carbondale
		Carbondale, IL 62901

NOTE: Information on undergraduate preparation necessary for schools of medicine is listed under pre-medicine in this text.

AEROSPACE STUDIES (AFROTC)

The United States Air Force offers "Aerospace Studies" as a voluntary course program which leads to a commission as an Air Force officer following graduation from the University. All cadets are expected to maintain a satisfactory grade point average while in the program and must be able to give evidence of a bona fide baccalaureate degree from the university as a minimum toward meeting the commissioning requirements. The program is divided into two parts: The General Military Course (GMC) for Freshmen and Sophomores, and the Professional Officer Course (POC) for Juniors and Seniors.

Any upper division student is eligible for membership in the Professional Officer Corps. A student who competes successfully for POC membership at a later point in his or her academic years must remain a full-time student during his two year membership in the POC. This full-time status may be at the undergraduate or graduate level.

General Military Course (GMC)

As the name implies, this portion is "General" in nature. Uniforms are provided, classes are given, and the cadets are under no obligation to the Government. Upon the successful completion of the freshman and sophomore requirements, cadets may voluntarily attend a four week Field Training course during the summer at an Air Force Base in order to qualify for entry into the Professional Officer Course. Cadets must successfully complete a course in English composition during GMC membership.

Professional Officer Course (POC)

Acceptance into the last two years of the program (POC) is competitive. It requires the successful completion of a physical examination and of the Air Force Officer Qualifying Test (AFOQT). Newly-entering students at this level (AS 300/400) who have not gone through the General Military Course for freshmen and sophomores are also required to attend a six week Field Training course during the summer--this is normally the summer following the successful completion of their sophomore year. Such students and graduate students should contact the SIUC AFROTC regarding exceptions to the rule. A course in mathematical reasoning must be taken prior to commissioning.

Obligations

The GMC cadet is not obligated at any time. Cadets entering the POC must accept a commission into the United States Air Force following graduation. If these conditions are accepted, then the POC does incur a military obligation.

Payments: The GMC cadets receive no payments other than that received while in field training at the end of their sophomore year. The POC cadets receive a monthly tax-free subsistence allowance (call AFROTC for the current amount) and are also paid for their field training activities.

Scholarships: Air Force ROTC has two types of scholarships available. The first is the Federal Scholarship and it is directed almost exclusively to highly qualified cadets in three and one-half, three, two and one-half, and two year increments. These are directed almost exclusively at the engineering and science/technical fields of study. Any recipient of such a scholarship must agree to complete successfully at least one year of a major Indo-European or Asian language prior to commissioning. The second scholarship is funded by the state of Illinois, and amounts to a tuition waiver. This is available to GMC and POC cadets regardless of academic major and is awarded through the department for academic excellence to students enrolled/accepted into the ROTC program at SIUC. Cadets who have attended Illinois state junior colleges and are currently enrolled in SIUC's ROTC courses may also be eligible for a tuition waiver. No military service obligation is incurred by accepting Illinois-funded tuition waivers.

Veterans Commissioning Program

Qualified enlisted personnel enrolled in an SIUC resident center may enter the two-year (POC) AFROTC program in Carbondale. Enlistees must meet the following criteria: 1) Graduate within two years of entry in AFROTC at SIUC (full-time status); 2) U.S. citizen; 3) Under 33 years of age; 4) Have a minimum of 180 days of active duty; 5) Have qualifying scores on the AFOQT; 6) Be able to attain an honorable discharge with a favorable reenlistment code; 7) Have a qualifying physical examination; 8) Process successfully through your nearest AFROTC detachment. Points of clarification for this program may be addressed by mail or phone to the Carbondale AFROTC Office. The Veterans Commissioning Program for AFROTC is available to all services within the Department of Defense (Army, Navy, Air Force, Marines).

Special Note to Counselors:

This program is available to all majors. For those applicants who have goals of becoming a pilot, navigator, or missile officer, any academic major is viable. We do, however, have a special need for engineering, mathematics, chemistry, computer science, and physics majors. All academic work completed since graduation from high school will be evaluated.

ARMY MILITARY SCIENCE
(Army Reserve Officers' Training Corps)

Army Military Science Studies is a voluntary course sequence leading to a commission as an officer in the United States Army (Active Army, Army Reserves, or Army National Guard). Students in all fields of study at Southern Illinois University at Carbondale are eligible to enter the Army Military Science Program.

Scholarships: Numerous 4-year, 3-year, 2-year, and 1-year scholarships are available to qualified students.

Basic Course: Enrollment in the basic course (freshman and sophomore level courses) is unrestricted and carries no military obligation.

Advanced Course: Acceptance into the advanced course (junior and senior years, 300-level) is contingent on meeting academic, physical, age, and citizenship prerequisites. Any student, graduate or undergraduate, with at least two academic years remaining at the University, may participate in the advanced course.

Advance course students attend a six-week advanced leadership camp one summer conducted at an Army installation. Students receive travel pay to and from camp, are furnished room and board, and are paid while at camp.

Payments: All individuals who are contracted into the Advanced Course receive a \$100 per month, tax free subsistence allowance.

Retention: All students must meet University academic requirements and maintain satisfactory academic progress to enter or remain in the ROTC program.

Placement: We are able to guarantee placement into the Reserve Forces (Army Reserve, Army National Guard) and for those students who desire active duty, we have a selection rate much higher than the national average.

Extra-Curricular Activities: In addition to courses offered for academic credit, the Army Military Science program sponsors extracurricular activities. The Ranger Company is open to all Army ROTC students. The Pershing Rifles, a national organization, is open to all University students. The Pershing Rifles also contain the Color Guard and the Drill Team. They perform at home football and basketball games and march in numerous local parades and at the Annual Mardi Gras parade in New Orleans. The Association of the United States Army is a national organization with membership open to all students of the University.

The Army Military Science department is located in Kesnar Hall, Bldg. 112, Room 106; telephone (618) 453-5786.

ENTRY LEVEL JOB TITLES

WHAT DO I DO WITH A DEGREE IN _____?

The University Placement Center at SIUC has compiled a list of titles associated with the first job recent graduates obtained in business, industry or government. We have listed the titles for each non-teaching major.

The list is intended to be used to assist teachers, counselors, faculty members and students faced with the question: "What does one do with a degree in _____?" The following is a representative list of entry-level job titles:

Account Executive
Broadcast Producer
Copywriter
Disc Jockey
Newspaper Reporter

A&P Mechanic
Automotive Mechanic
Dental Hygienist
Electronics Technician
Field Service Representative
Tool and Die Maker

Computer Programmer
Editor
Paralegal
Retail Management
Counselor
Teacher of English as a Second
(or foreign) Language

Associated Engineer
Manufacturing Engineer
Process Engineer
Production Engineer
Quality Engineer
Safety Engineer

Extension Agent
Soil Conservationist
Herd Health Specialist
Food Technologist
Dietician
Crop Supply & Service Specialist

Biologist
Chemist
Actuary
Geologist
Quality Assurance Technician
Lab Technician
Zoologist

Police Officer
Criminal Investigator
Corrections Officer
Probation-Parole Officer
Security Officer
Guard
Federal Agent

Auditor
Management Trainee
Loan Examiner
Internal Auditor
Market Analyst

The University Placement Center hopes that this listing will encourage both counselors and potential SIUC students to seek additional information about career opportunities prior to matriculation and for students to utilize the services of the SIUC University Placement Center once they are enrolled.

For additional information, please contact the following placement consultants:

Agriculture
Business and Administration
Communications and Fine Arts
Cooperative Education Services
Education--Higher Education and
Public School Administration
Engineering and Technology
Human Resources
Liberal Arts
Science
College of Technical Careers
International Placement

Anthony Chavez
Marilyn DeTomas
Valerie Brew Parrish
Anthony Chavez

Jane Tierney
Michael Murray
Valerie Brew Parrish
Barbara Costello
Mari Perschbacher
Mari Pershbacher
Mari Pershbacher

Dr. Patricia A. Bassett, Director
Telephone - 618-453-2391
Woody Hall, B-204

ACCOUNTING
College of Business and Administration (COBA)
(Bachelor of Science)

Dr. Frederick Wu, Director
Telephone - 618-453-2289
Henry J. Rehn Hall, Room 232

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgements and decisions by users of the information. Such information is required and used by parties external to the business and by management within the business.

The curriculum is designed to prepare a student to assume a professional position as a certified public accountant or to join the management team in industry and government. The courses provide a basic understanding of all phases of accounting and permit the student to elect courses to prepare for a particular area of interest.

The School of Accountancy has a working relationship with several national public accounting firms with whom the School arranges for student work experience during the spring semester of their senior year. Students work off campus in the field of accounting under the direction of the cooperating public accounting firms. While most of the work assignments are in the St. Louis and Chicago areas, some students have been assigned, at their request, in other geographical districts as far away as New Jersey and Texas. The student receives valuable work experience, a salary, and three hours of university credit under the internship program. Interns are selected by the School.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	-
GEC	Humanities (select)	-	3
*GED 152, 153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	3	-
*ACCT 230	Managerial Accounting	-	3
*CS 212 or	Intro. to Computer Programming ³	-	3
CIP 229	Computing for Business Admin. ³		
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		<u>15</u>	<u>15</u>

*Required course for a major in COBA.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

²ECON 214 or 215 counts toward GEB credit.

³Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Accounting major, the student will take upper level business courses which will prepare the student for an exciting career in the Accounting area. These courses include the remaining Core requirements and 24 credits in the Accounting area.

Accounting As A Major

Neither minor nor foreign language required.

Graduate degrees available; Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The School is recognized by the American Assembly of Collegiate Schools of Business (AACSB). See the College of Business and Administration listing for their retention policy and the 40% rule. Furthermore, a 2.00 grade point average is required in SIUC accounting courses for graduation. A 'C' or better is required in all prerequisite accounting courses. This does not apply to Accounting 220, the prerequisite for Accounting 230, for non-accounting majors.

Representative First Job Titles: Accountant, Accounting and Fiscal Admin. Career Trainee, Revenue Collection Officer, Auditor, Grants and Contract Officer, Assistant Controller, Plant Accountant, Retail Controller Trainee, Junior Systems Analyst, Financial Management Trainee, Internal Auditor, Accounting Management Trainee, Property Accountant, Budget Accountant.

ADMINISTRATION OF JUSTICE
College of Human Resources
(Bachelor of Science)

Dennis B. Anderson, Director
Telephone - 618-453-5701
Faner Building, 4th Floor

The Bachelor of Science degree with a major in Administration of Justice meets the career objectives of students interested in law enforcement, private security management, corrections, juvenile services and other roles in social and criminal justice.

Four areas of specializations--law enforcement, security management, corrections, juvenile justice and delinquency prevention--have been delineated to give a range of choices suitable for most students preparing for careers in a field of criminal justice. Within the framework of these specializations, under faculty guidance, a student may take supplemental courses which complement any of the above specializations, e.g., computers, accounting, management, foreign language. This approach provides a sound foundation in Administration of Justice plus flexibility to accommodate individual interests and needs.

Field internship placement is an important element in the Administration of Justice program and internships are encouraged for qualified students.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Sciences (select) ¹	3	3
GEB	Social Sciences (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health & Well Being (Activity) ¹	-	2
AJ 201 or 290	Intro to Criminal Justice System or Intro to Criminal Behavior	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Sciences (select) ¹	3	-
GEB	Social Sciences (select) ¹	-	3
GEC	Humanities (select) ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE 107, or 201 or 236	Human Health & Well Being (select) ¹	-	2
GEA, B, C	Elective (select) ¹	3	-
AJ 201 or AJ 290	Intro to Criminal Justice System or Intro to Criminal Behavior	3	-
AJ 310	Intro to Criminal Law	-	3
AJ	Electives	3	3
		<u>15</u>	<u>14</u>

¹To determine what courses may be taken to satisfy the General Education requirements, please refer to the section, General Education. The preceding two-year outline can be altered to meet the needs and abilities of the student.

Third and Fourth Years

The last two years of a student's program concentrate on specific career or professional objectives. The student must take the division requirement of 16 semester hours, plus meet the requirements of a chosen concentration from the following areas: Law Enforcement, Juvenile Justice and Delinquency Prevention, Corrections, or Private Security Management.

Administration of Justice As A Major

Graduate degree program available.

No foreign language requirement, however, Spanish is recommended.

A minor (secondary concentration) is required and is selected in consultation with the student's academic advisor. For a secondary concentration, the student selects 18 hours of courses constituting a systematic sphere of study relevant to his or her interests and needs. For a minor, students must fulfill the appropriate department's requirements.

Multi-disciplinary staff with backgrounds in Sociology, Psychology, Education, Law and Rehabilitation provide instruction. Most of the staff also have practical experience in the Criminal Justice System.

Outstanding faculty, nationally recognized program, guest speakers, special programs, international emphasis, and career oriented experience available.

Representative First Job Titles: Crime Investigator, Patrolperson, Juvenile Delinquency Education Specialist, Alcoholism & Drug Addiction Counselor, Delinquency Preventor, Community Planning & Redevelopment Officer, Morale Education Specialist, Child Care Worker, Probation & Parole Administrator, Rehabilitation & Resettlement Analyst, Social & Behavioral Researcher, Outreach Director, YMCA-YWCA Director & Program Specialist, Prisoner Classification Interviewer, Public Aide, Caseworker, Security, FBI Agent, Penology and Corrections Officer.

ADVANCED TECHNICAL STUDIES
College of Technical Careers
(Bachelor of Science)

Dr. Fred Isberner
Coordinator
Telephone - 618-453-8898
Technical Careers Building
Room 126

The Advanced Technical Studies major is a flexible, individually designed program of study for students with a broad range of technical training, interests, and experience. The program is ideally suited for community college and technical institute graduates holding occupationally-oriented associate degrees in fields such as automotive technology, communication graphics, construction technology, electronic data processing, photographic technology, secretarial services, and tool and manufacturing technology. Beginning freshmen should apply to an appropriate associate degree major and plan to enter the ATS program upon completion of the AAS.

The Advanced Technical Studies major focuses upon managerial and supervisory skills for the technical professions. Graduates put these skills to work in such fields as construction, automotive, computer information processing, office management, architectural drafting/design, advertising, and small business operations.

The bachelor of science degree in Advanced Technical Studies builds upon students' previous technical training through a combination of core courses, major requirements, approved major electives and SIUC general education requirements.

The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or through proficiency examinations. Students who have completed an A.A.S. degree may be eligible for the Capstone option. This option reduces the hours required in general education from 46 to 30. Students may also receive credit for previous educational, military and occupational experience. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available upon approval by the student's faculty advisor.

First Year

GEA	Science (select)	3	3
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 107	Intermediate Algebra	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
Electives or	Technical Specialization	7	5
		<u>18</u>	<u>17</u>

Second Year

GEA	Science (select)	3	-
GEB	Social Science (select)	3	3
GEC	Humanities (select)	-	3
GED 102	English Composition II	-	3
GED 152	Interpersonal Communication or		
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (Activity)	-	2
Electives or	Technical Specialization	9	8
		<u>18</u>	<u>19</u>

*GE Total = 46 hours. See advisor to determine eligibility for Capstone option.

Third and Fourth Years

ATS core courses --	12 hours required	
ATS 364	Work Center Management	3
ATS 416	Applications of Technical Information	3

Two of the following:

ATS 332	Labor Management Problems	3
ATS 383	Data Interpretation	3
ATS 421	Professional Development	3
		<u>12</u>

Specialization Requirements - 24 hours

Must include at least 15 hours of 300-400 level coursework. Individually designed with students' faculty advisor.

Internship, Independent Study, or approved equivalent - 12 hours required.

Approved career electives - 27 hours

TOTAL: 120 hours

Representative First Job Titles: Automotive Sales and Services Representative, Construction Foreman, Graphic Artist.

AGRIBUSINESS ECONOMICS
(Agricultural Economics/Agribusiness)
College of Agriculture
(Bachelor of Science)

Dr. William M. Herr, Chair
Telephone - 618-453-2421
Agriculture Building, Room 226

The Agricultural Economics/Agribusiness curriculum is designed to prepare men and women for attractive careers related to the business and public policy aspects of agriculture. Courses offered include agribusiness management, finance, marketing, prices, policy, farm management, economic development and natural resource management. In order to accomplish the objectives of providing the student with a basic understanding of business-economic decision principles applied to agriculture, the program includes courses from the Department of Economics, College of Business and Administration and the College of Agriculture. To accommodate the various needs of students, there are two options available in the agribusiness economics major: a) 40 hours in agriculture (The Agriculture Option) which provides a broad training in agriculture and b) 32 hours in agriculture (The Business-Economics Option) which provides less training in agriculture and more in economics and/or business.

Among career opportunities are grain merchandising, livestock marketing, farm credit, farm management, agribusiness management, sales of farm supplies (chemicals, machinery, feed, seed, petroleum), administration of farm programs, economic development specialist, agricultural extension and real estate sales and appraisal.

First Year		Fall	Spring
*GEA 106	Chemistry for Non-Science Majors	-	3
*GEA 115	Introductory Biology	3	-
GEB	Social Science ¹	-	3
GEC	Humanities ¹	-	3
*GED 101	English Composition	3	-
*GED 102	English Composition II	-	3
GEE	Human Health and Well Being ¹	2	2
*MATH 139	Finite Mathematics	3	-
*ABE 204	Introduction to Agriculture Economics ²	-	3
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices	1	-
		15	17
Second Year		Fall	Spring
PLSS 200	Principles of Field Crop Production	3	-
GEB	Social Studies ¹	3	-
GEC	Humanities ¹	3	3
*GED 153	Public Speaking	-	3
*MATH 140	Short Course in Calculus	-	3
*ECON 214, 215	Economics - Macro, Micro	3	3
	Electives ³	3	3
		15	15

*Required courses for a major in Agricultural Economics/Agribusiness.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²ABE 204 can be substituted as GEB credit.

³Accounting, quantitative methods, or agriculture recommended. Two courses in accounting are desirable.

Third and Fourth Years

The last two years of the agricultural economics agri-business curriculum are devoted to advanced courses in agricultural economics, agri-business, economics and business to meet the goals and objectives of the student. About twenty hours of free electives are included in the last two years of this curriculum.

Agribusiness Economics (Agricultural Economics/Agri-business) As A Major

Class size 20-50; senior year 15-30. Students having an aptitude for social science, business, resource management or agriculture will find the program interesting and challenging. Those transferring from junior colleges can complete an Agricultural Economics/Agri-business major in two years. No minor required. Credit for internships available. Internships typically occur over the summer but may be taken during any semester. Masters degree available in Agricultural Economics and Ag Services.

Representative First Job Titles: Agricultural Sales, Sales Management, Commodity Merchandiser, Agricultural Program Administrator, Agricultural Commodities Inspector, Farm loan Officer, Farm Management, Agricultural Economist, Agricultural Management Specialist, Agricultural Marketing Specialist, Agricultural Market Reporter, Economic Development Specialist.

AGRICULTURE GENERAL •
(Agricultural Education Specialization)
College of Agriculture
(Bachelor of Science)

Dr. James Legacy, Prof.
AGED Coordinator
Telephone - 618-536-7733
Agriculture Building, Room 158B

Students who major in general agriculture at SIUC get the best of many worlds. They may pick and choose from among the best courses, the best teachers, and the best activities in the Department of Agricultural Education and Mechanization, where they can specialize in either education, information, mechanization, or production.

Completion of a four-year course of study in the Agricultural Education Specialization leads to certification as a teacher of agricultural occupations. Students have the opportunity to specialize in one of the following areas: Agribusiness, Power and Machinery, Horticulture, and Agriculture Resources.

Employment opportunities for agricultural education majors are excellent not only as teachers in high schools and community colleges, but the breadth of training also provides educational background needed for adult training programs provided by high schools, colleges, extension service, and industry. Many international agricultural positions are open to persons with this training. This curriculum also provides the educational background sought by many agribusiness firms for sales and management training positions.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 106	Chemistry for Non-Science Majors ¹	-	3
GEA 115	Biology	3	-
GEB	Social Studies (select) ²	-	3
GEC	Humanities (select) ²	-	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ²	-	3
GED 107	Intermediate Algebra ³	3	-
GEE 201	Healthful Living ²	2	-
AGEM 171-4	Intro to Agricultural Mechanization	-	4
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices	1	-
	Electives	-	2
		<u>15</u>	<u>18</u>
<u>Second Year</u>			
GEA	Science (select)	3	-
GEB 202	Introduction to Psychology ²	3	-
GEB 114 or	Intro. to American Government & Politics or		
GEB 301	Modern America from 1877 to Present ²	-	3
GEC	Literature (select)	-	3
GEC	Humanities (select) ²	3	-
GED 153	Public Speaking ²	3	-
GEE	P.E. Activity ²	1	1
PLSS 200	Principles of Field Crop Production	-	3
AGEM 314	Agricultural Information Programs	3	-
ABE 204	Introduction to Ag. Economics	-	3
	Electives ⁴	-	3
		<u>16</u>	<u>16</u>

¹ A student with background and interest in chemistry is recommended to take a higher level of chemistry.

² Courses required for certification include GEB 202; GEB 212, or 301; GED 101, GED 102; GED 153; GEE 100-114 (2 hrs.) GEE 201; and one additional English course from GEC, GED or department.

³ College Algebra recommended.

⁴ Student should consult with agriculture counselor regarding options available for agriculture electives.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives and electives. Important - see requirements for entrance into the Teacher Education Program.

Agricultural Education

A student may select one of four agricultural speciality options for major emphasis. Information about these specialties may be secured from the department.

No minor required. No foreign language required. Approximate class size 30. Masters degree available in Agricultural Education. Methods and student teaching will be stressed junior and senior years. Courses in both the College of Agriculture and the College of Education are included.

Students who major in general agriculture at SIUC get the best of many worlds. They may pick and choose from among the best courses, the best teachers, and the best activities in the Department of Agricultural Education and Mechanization, where they can specialize in either education, information, mechanization, or production.

The Agricultural Information Specialization is intended for those students who plan to be involved in agricultural education programs in extension, post-secondary educational institutions, and industry. Persons desiring to be certified for public secondary teaching should follow the Agricultural Education major.

First Year		Fall	Spring
*GEA 106	Chemistry for Non-Science Majors ¹	-	3
*GEA 115	Biology	3	-
GEB	Social Studies	-	3
GEC	Humanities ⁴	3	3
*GED 101	English Composition	3	-
*GED 102	English Composition II	-	3
GED 107	Intermediate Algebra ²	3	-
GEE	Human Health and Well Being ⁴	-	2
AGE 171-4	Intro to Agricultural Mechanization	-	4
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices	1	-
		16	18
Second Year		Fall	Spring
GEA	Science ⁴	3	-
*GEB 108 or GEB 202	The Sociological Perspective or Introduction to Psychology	3	-
GEB	Social Studies ⁴	-	3
GEC	Humanities ⁴	-	3
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being ⁴	1	1
AGE 314	Agricultural Information Programs	-	3
PLSS 200	Principles of Field Crop Production	-	3
ABE 204	Introduction to Ag. Economics ³	3	-
	Electives	3	3
		16	16

*Required or strongly recommended courses for Agricultural Information Specialization.

¹A student with background and interest in chemistry is recommended to take a higher level of chemistry.

²College Algebra recommended.

³ABE 204 can be substituted as GEB credit.

⁴To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrates on specific professional objectives and electives.

Agricultural Information

No minor required. No foreign language required. Approximate class size 30. Master's degree available in Agricultural Education and Mechanization.

Representative First Job Titles: Agricultural Communications Specialist in Newspaper, Radio, Television, Advertising, or Ag. Photojournalism; Agricultural Microcomputer Application Specialist, Assistant County Extension Advisor; Product Education Specialist; Assistant Manager (Farm Supply Business); Agricultural Industry Representative; Agricultural Manager; Sales Representative.

Students who major in general agriculture at SIUC get the best of many worlds. They may pick and choose from among the best courses, the best teachers, and the best activities in the Department of Agricultural Education and Mechanization, where they can specialize in either education, information, mechanization, or production.

The Agricultural Mechanization Specialization is designed to prepare individuals for attractive careers in agriculture and related businesses, in industries that are related to agriculture, or to continue their professional development by entering graduate school. A few career opportunities include: grain elevator operations; farm supply sales; operational positions in the processing industry; power use advisors with electric power supplying agencies and companies; field testing of farm equipment; product education positions; service representatives for the various power and machinery companies; farming, and farm management. Due to the extensive mechanization and technology in agriculture and the related industries employment opportunities are excellent.

Courses in agricultural mechanization are offered in construction and repair processes; agricultural power and machinery; agricultural electrification; agricultural buildings and structures; soil and water conservation; and agricultural materials processing, handling, and storage.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
*GEA 106	Chemistry for Non-Science Majors	-	3
*GEA 115	Biology	3	-
*GED 101	English Composition	3	-
*GED 102	English Composition II	-	3
GEE	Human Health and Well Being ¹	2	2
AGEM 171-174	Intro to Agricultural Mechanization	-	4
*ANS 121	Science of Animals that Serve Mankind	3	-
*ANS 122	Production and Processing Practices	1	-
*MATH 108 & 109	College Algebra and Trigonometry	3	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies ¹	3	-
GEC	Humanities ¹	3	3
*GED 153	Public Speaking	-	3
*ABE 204	Introduction to Ag Economics	3	-
*PHYS 203 a,b	College Physics	3	3
PLSS 200	Principles of Field Crop Production	-	3
	Electives	2	-
		<u>14</u>	<u>12</u>

*Required or strongly recommended courses for Agricultural Mechanization majors.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

Third and Fourth Years

The last two years of the individual's program concentrate on work that best leads the individual toward his or her professional goals. The individual will complete 38 semester hours in agriculture of which 18 hours are in agricultural mechanization and 27 semester hours of approved free electives. Elective courses may be taken in agriculture or supporting areas.

Individuals do not need to have an agricultural background to study in the Agricultural Mechanization Specialization.

Internships are encouraged for the summer terms. No minor required. No foreign language required. Masters degree available. Class size 20-50; senior year 15-30. Department sponsors special workshops on campus.

Representative First Job Titles: Farm Machinery Sales and Service, Power Use Advisor, Agricultural Commodities Inspector, Agricultural Commodity Warehouse Examiner, Agricultural Industry's Representative, Farm Manager, Industrial Relations Specialist, Industrial Property Management Specialist, Agricultural Manager, Agribusiness Technician, Agricultural Engineer, Soil and Water Conservationist, Agriculture Business Manager.

AGRICULTURE GENERAL
 (Agricultural Production Specialization)
 College of Agriculture
 (Bachelor of Science)

Dr. Robert L. Wolff, Chair
 Chief Academic Advisor
 Telephone - 618-536-7733
 Agriculture Building, Room 223

Students who major in general agriculture at SIUC get the best of many worlds. They may pick and choose from among the best courses, the best teachers, and the best activities in the Department of Agricultural Education and Mechanization, where they can specialize in either education, information, mechanization, or production.

The specialists in agricultural production prepare for the many agricultural production-related careers in farming and agricultural services, business and industry.

Students in this major gain basic preparation for many of the agricultural careers: general farming, agricultural services, agricultural extension, agricultural communication, agricultural business, agricultural industry and agricultural production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Introductory Zoology	4	-
GEB	Social Studies (select) ¹	-	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ¹	-	3
MATH 108 or MATH 109	Intermediate Algebra or College Algebra	3-5	-
AGEM 171-4	Intro to Agricultural Mechanization	-	4
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices	1	-
CHEM 140a	Chemistry	-	4
		<u>14-16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ¹	-	3
GEC	Humanities (select) ¹	3	3
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	2	2
BOT 200	General Botany and Lab	4	-
CHEM 140b	Chemistry	4	-
PLSS 200	Principles of Field Crop Production	3	-
AGEM 372	Agricultural Production Machinery	-	3
ABE 204	Introduction to Ag. Economics ²	-	3
		<u>16</u>	<u>17</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section General Education for the Transfer Student.

²Agribusiness Economics 204 substitutes as GEB credit as well as counting as hours toward the major.

Requirements include a minimum of 24 semester hours of courses in four departments within the College of Agriculture plus additional elective courses in agriculture or forestry to complete a total of 29 semester hours. An additional 31 semester hours of electives are required and may be taken in Agriculture or other areas of study.

Agricultural Production
 No minor required; no foreign language required.

ALLIED HEALTH CAREERS SPECIALTIES
College of Technical Careers
(Associate in Applied Science)

Frederic Morgan, Coordinator
Telephone - 618-453-7211
Technical Careers Building
Room 16

Allied Health Careers Specialties is a highly individualized program which prepares graduates for service in medical facilities where they may be employed as a single or multi-competent technician. In general, students take a common core of coursework during the first year. This core includes courses such as physiology, human anatomy, medical terminology, English composition, speech and college algebra. The remainder of the degree is in specialty courses and clinical studies. The clinical studies are based upon this basic coursework. The majority of the clinical studies will be completed off-campus in health care facilities. The program leads to an associate degree.

In addition to meeting University admission requirements, students must also contact the program coordinator above for details on admission to the program. Enrollment in the program is limited due to limited clinical facilities.

Students in the clinical portion of the program should expect to spend approximately \$135.00 per clinical specialty for uniforms, materials, and insurance, in addition to tuition and fees. Students must furnish transportation to off-campus clinical experiences.

For specific information on the program and its specialized application, contact the coordinator.

Also see: Radiological Technology and Respiratory Therapy.

ANIMAL SCIENCE
 (Equine Science Specialization)
 College of Agriculture
 (Bachelor of Science)

Dr. Robert D. Arthur, Chair
 Telephone - 618-453-2329
 Agriculture Building, Room 127

Instruction, demonstration, and consultation are provided in companion animals, dairy, horse, livestock and poultry production, animal behavior, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management including meats, animal hygiene, reproduction, animal breeding and nutrition.

The student has the opportunity to select courses in other areas of agriculture or related fields, such as business, communications, or physical sciences. This selection allows the student to include in his or her education the agronomic, agricultural economic, and agricultural engineering phases of agriculture, pre-veterinary medicine, or business as related to animal production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Zoology	4	-
GEB	Social Studies ¹	3	3
GEC	Humanities ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being ¹	2	2
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices of the Animal Industry	1	-
ABE 204	Agribusiness Economics	-	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies	-	3
GEC	Humanities	3	3
GED 153	Public Speaking	-	3
AG	Agriculture Electives	3	3
CHEM 140 a,b	Chemistry ²	4	4
ANS 331	Physiology, Growth, and Development of Farm Animals	4	-
PHSL 208	Physiology Lab	1	-
		<u>15</u>	<u>16</u>

¹See General Education for the Transfer Student for information on SIUC's General Education requirements.

²Substitutes for GEA Chemistry.

Third and Fourth Years

Courses during the last two years of a student's program concentrate on requirements for the major (including several hands-on equine classes), electives in Animal Science, electives in other departments in the College of Agriculture as well as free electives. Also during the last two years, each student is encouraged to complete an internship in the equine industry.

Animal Science As A Major

Many students work at the various livestock centers and the laboratories to help defray the cost of education as well as to gain valuable experience. An intern course also enables a student to work in special areas (away from campus) and receive credit. Graduates are prepared for employment in many phases of animal agriculture. The department maintains close contact with the industry and assists in placing graduates in permanent positions.

No minor required. No foreign language required. Most of teaching staff have advanced degrees (Ph.D.). Graduate programs are available. Class size 20-60; senior year 10-30.

Representative First Job Titles: General Manager, Farm Manager, Trainer/Assistant Trainer, Stallion or Broodmare Manager/Assistant Manager, Equine Health Technician, Assistant Marketing Director, Superintendent of Horses or Herdsman, Racetrack Official, Events Manager or Assistant Manager.

ANIMAL SCIENCE
(Production Specialization)
College of Agriculture
(Bachelor of Science)

Dr. Robert D. Arthur, Chair
Telephone - 618-453-2329
Agriculture Building, Room 127

Instruction, demonstration, and consultation are provided in companion animals, dairy, horse, livestock and poultry production, animal behavior, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management including meats, animal hygiene, reproduction, animal breeding and nutrition.

The student has the opportunity to select courses in other areas of agriculture or related fields, such as business, communications, or physical sciences. This selection allows the student to include in his or her education the agronomic, agricultural economic, and agricultural engineering phases of agriculture, pre-veterinary medicine, or business as related to animal production.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Zoology	4	-
GEB	Social Studies ¹	3	3
GEC	Humanities ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being ¹	2	2
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices of the Animal Industry	1	-
ABE 204	Agribusiness Economics	-	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies	-	3
GEC	Humanities	3	3
GED 153	Public Speaking	-	3
AG	Agriculture Electives	3	3
CHEM 140 a,b	Chemistry ²	4	4
ANS 331	Physiology, Growth, and Development of Farm Animals	4	-
PHSL 208	Physiology Lab	1	-
		<u>15</u>	<u>16</u>

¹See General Education for the Transfer Student for information on SIUC's General Education requirements.

²Substitutes for GEA Chemistry.

Third and Fourth Years

Courses during the last two years of a student's program concentrate on requirements, electives in Animal Science, other departments in the College of Agriculture as well as free electives.

Animal Science As A Major

Many students work at the various livestock centers and the laboratories to help defray the cost of education as well as to gain valuable experience. An intern course also enables a student to work in special areas (away from campus) and receive credit. Graduates are prepared for employment in many phases of animal agriculture. The department maintains close contact with the industry and assists in placing graduates in permanent positions.

No minor required. No foreign language required. Most of teaching staff have advanced degrees (Ph.D.). Graduate programs are available. Class size 20-60; senior year 10-30.

Representative First Job Titles: Animal Husbandman, Animal Physiologist, Animal Breeding Expert, Animal Ecologist, Animal Taxonomist, Swine Herdsman, Animal Industry Representative, Animal Hygiene Specialist, Farm Manager, Dairy Cattle Manager, Product Evaluator, Animal Control Biologist, Livestock Manager, Animal Nutrition Specialist, Dairy Products Tester, Poultry Manager.

ANIMAL SCIENCE

(Science and Pre-Veterinary Medicine Specialization)
College of Agriculture
(Bachelor of Science)

Dr. Robert D. Arthur, Chair
Telephone - 618-453-2329
Agriculture Building, Room 127

Instruction, demonstration, and consultation are provided in companion animals, dairy, horse, livestock and poultry production, animal behavior, meats, pets, and animal hygiene. Courses are offered in all phases of animal production and management including meats, animal hygiene, reproduction, animal breeding and nutrition.

Completing the science and pre-veterinary option of the Animal Science major qualifies one for a B.S. degree, meets the course requirements for admission to a veterinary medicine program and serves as an excellent foundation for graduate work in Animal Science.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being ⁵	2	2
ANS 121	Science of Animals that Serve Mankind	3	-
ANS 122	Production and Processing Practices of Animal Industry	1	-
BIOLOGY	(core suggested)	4	4
MATH 108, 109	College Algebra and Trigonometry ¹	3	3
	Agriculture Electives	-	3
		16	18

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies	-	3
GEC	Humanities	-	3
ABE 204	Agribusiness Economics ⁴	3	-
ANS 331	Physiology, Growth and Development	4	-
CHEM 222a, b	Introduction to Chemical Principles ²	4	4
PHSL 208	Physiology Lab	1	-
PHYS 203a,b	College Physics ³	3	3
PHYS 253a,b	College Physics Lab	1	1
	Agriculture Elective	-	3
		16	17

¹Substitutes for GED 107 (Math).

²Substitutes for GEA 106 (Chemistry).

³Substitutes for GEA 101 (Physics).

⁴ABE 204 can be substituted as GEB credit.

⁵See General Education for the Transfer Student for information on SIUC's General Education requirements.

Third and Fourth Years

In addition to completing General Education Requirements, chemistry, biochemistry and microbiology courses, the last two years of a student's program concentrate on requirements and electives in animal science, other departments in the College of Agriculture as well as free electives.

Animal Science As A Major

Many students work at the various livestock centers and the laboratories to help defray the cost of education as well as to gain valuable experience. An intern course also enables a student to work in special areas (away from campus) and receive credit. Graduates are prepared for employment in many phases of animal agriculture. The department maintains close contact with the industry and assists in placing graduates in permanent positions.

No minor required. No foreign language required. Most of teaching staff have advanced degrees (Ph.D.). Graduate programs are available. Class size 20-60; senior year 10-30.

Representative First Job Titles: Animal Husbandman, Animal Physiologist, Animal Breeding Expert, Animal Ecologist, Animal Taxonomist, Swine Herdsman, Animal Industry Representative, Animal Hygiene Specialist, Farm Manager, Dairy Cattle Manager, Product Evaluator, Animal Control Biologist, Livestock Manager, Animal Nutrition Specialist, Dairy Products Tester, Poultry Manager.

The undergraduate program in anthropology at SIUC gives students a broad and well-rounded exposure to the field. A variety of courses is offered in all four sub-fields; that is, archaeology, physical anthropology, linguistics, and socio-cultural anthropology. The core of the program is a set of four courses that introduce the student to the basic questions and issues of the sub-fields and the methods and techniques used to address them. This core is supplemented by specialty courses, such as those on societies in different geographic areas, economic and ecological anthropology, the anthropology of law, conservation archaeology, applied anthropology, human evolution, human genetics and demography, folklore, religion, language and culture, primate behavior, and origins of civilization. Several applied or "hands-on" courses are available for students to get actual experience in the laboratory and the field, as well as a practicum in museum studies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
Elective		3	-
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	-
GED 152 or 153	Interpersonal Communications or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	-	2
FL	Foreign Language ²	4	4
ANTH 300D,A	Sociocultural & Physical Anthropology ⁴	3	3
ANTH 300B or C	Linguistic Anthropology or Archaeology	-	3
MATH or CS	Mathematics or Computer Science ³	3	-
		<u>16</u>	<u>15</u>

¹ See General Education for the Transfer Student.

² Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college during Fall 1978 or later. However, four of these hours may be used for GEC credit. Students intending to pursue a graduate education should realize that a foreign language would likely be required for graduate school admission; for these students two years of foreign language is recommended.

³ One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁴ Sociocultural Anthropology is central to the core curriculum and should be taken as soon as possible. Any two of 300A, B, and C may be taken the second year. All four must be taken as a requirement for the major.

Anthropology As A Major

Resources for anthropology students include a large university library, a university museum, a fully equipped computer center, and the Center for Archaeological Investigations which carries out numerous projects. In addition, the anthropology department has physical anthropology, archaeology, and linguistic laboratories.

The anthropology faculty has a wide array of field and research experience in all sub-fields of the discipline. Faculty have conducted field research in Latin American and the Caribbean, Africa, Eastern and Southwestern United States, South and Southeast Asia, and the Pacific Islands. Some also have applied their anthropological knowledge to solving practical problems in various parts of the world.

Opportunities exist for undergraduates to get involved in anthropology outside the classroom. An archaeology field school is offered every summer, and students often work on varied field and laboratory research projects. An undergraduate Anthropology Club sponsors such activities as trips to nearby archaeological sites, lectures, and the annual picnic. In addition, visiting anthropologists from other universities present talks, and the SIUC faculty and graduate students regularly give informal lunchtime lectures about their current research.

Representative First Job Titles: Secondary or College Teacher, Museum Curator, Social Worker, Archaeologist, Contract Archaeologist, Applied Linguist, Park Service Historian, Population Analyst, Physical Anthropologist, Overseas Sales Representative, Personnel Officer, Archivist, Community Development Planner, Medical Anthropologist, Exhibit Preparator, Archival Worker.

This is not strictly a drafting program. A student in this program will gain as much knowledge and skill that can be provided in two years. The courses are divided between Design/Theory and Production/Technology. This will allow the graduate to be on an in-line track towards such specific positions as job captain, production leader, specification writer, architectural observer, architectural estimator, designer, or computer operator/programmer.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 153	Public Speaking	-	3
ARCH 111	Architectural Drafting	6	-
ARCH 112	Architectural Graphics	3	-
ARCH 113	Architectural History	3	-
ARCH 124	Architectural Drawings I	-	5
ARCH 125	Architectural Design I	-	4
CTC 105a,b	Technical Mathematics	4	-
CTC 107a,b	Applied Physics	-	4
		<u>19</u>	<u>19</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
ARCH 214	Architectural Drawings II	6	-
ARCH 215	Architectural Design II	4	-
ARCH 216	Architectural Structures I	4	-
ARCH 217	Architectural Systems	2	-
ARCH 219	Architectural Site Planning	2	-
ARCH 220	Architectural Specifications	-	2
ARCH 224	Architectural Drawings III	-	6
ARCH 225	Architectural Design III	-	4
ARCH 226	Architectural Structures II	-	4
ARCH 229	Architectural Estimating	-	2
		<u>18</u>	<u>18</u>
<u>Electives</u>			
ARCH 316	Architectural Structures III	3	
ARCH 318	Beginning CAD	3	
ARCH 328	Computer Aided Drafting	3	
ARCH 338	Computer Aided Design	3	
ARCH 354	Architectural Project Development	8	

Architectural Technology requires a minimum grade of 'C' for all major courses.

A minimum of 74 hours of credit must be completed for graduation.

Architectural Technology As A Major

Instruction is provided by graduate architects. Some are licensed and some are members of the American Institute of Architects. Years of experience allow the faculty to teach courses that enable the student to understand: the architectural and design professions; components of the construction industry; the design and production process; the historical, mathematical and physical factors involved in all. This program covers building materials, systems and construction and preparation and interpretation of technical communications (architectural drawings, models, and architectural delineations).

In the courses in Computer Aided Drafting and Design, there are varied types of stations including color and three dimension in order to give the student the best opportunities in this discipline.

Often there are field trips to nearby cities to study historical and contemporary architecture. Allowance should be made in the student's budget of approximately \$400.00 for equipment and supplies.

Representative First Job Titles: Architectural Draftsman or Designer, Inspector, Specification Writer, Coordinator, Work Supervisor, Estimator.

ART
 (Drawing)
 (Painting)
 (Printmaking)
 (Sculpture)
 (Ceramics)
 (Metals)
 (Fibers/Weaving)
 College of Communications and Fine Arts
 (Bachelor of Fine Arts)

L. Brent Kington, Director
 School of Art and Design
 Telephone - 618-453-4315
 Allyn Building, Room 109

Joyce Jolliff, Academic Adviser
 Telephone - 618-453-4313
 Allyn Building, Room 103

The Bachelor of Fine Arts degree program leads toward demonstrated competency in a particular studio discipline. It requires 135 semester hours for graduation; 46 hours in general education, 15 hours in art history and 75 hours in studio art.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science	-	3
GEC	Humanities ¹	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being	-	2
ART 100 a & b	Two-Dimensional and Three-Dimensional Design	3	3
ART 107	Fundamentals of Art ¹	3	-
ART 110	Intro to Drawing I	3	-
ART 120	Intro to Drawing II	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science	3	-
GEB	Social Science Course	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
ART 200	Intro to Drawing III	3	-
ART 201	Beginning Painting	-	3
ART 203	Beginning Sculpture	3	-
ART 204, 205 or 206	Beginning Ceramics, Metals, or Fibers	-	3
ART 207 a & b	Intro to Art History	3	3
ART 300	Intermediate Drawing	-	3
		<u>15</u>	<u>15</u>

¹All specializations in the School of Art and Design receive six hours of GEC substitution for Art 100 a or b and Art 207a.

Art As A Major

The first two years are devoted primarily to study in core courses in art, design, art history and required and selected courses in general education. The remainder of the program involves intense junior- and senior-level study and practice in the selected art specializations. All students are required to participate in a B.F.A. seminar and present a senior exhibition. The School of Art and Design will evaluate all transfer credit that pertains to B.F.A. curricula.

The 135 semester hour program requirement is in keeping with the professional emphasis of the Bachelor of Fine Arts degree. An extra semester, or additional work during summer sessions, is usually required in order to complete the degree program.

Each year the School of Art and Design presents the Rickert-Ziebold Trust Award. It is a competition open to all graduating seniors. Those judged outstanding by the faculty share a \$20,000 annual award.

The School of Art and Design at Southern Illinois University at Carbondale is accredited by the National Association of Schools of Art and Design.

Representative First Job Titles: Many B.F.A. graduates go on to graduate school pursuing the Master of Fine Arts degree in their selected discipline. Others establish their own studios as independent artists and craftspersons or accept positions in discipline-related fields.

ART

(Art History)

(General Studio)

College of Communications and Fine Arts

(Bachelor of Arts)

(Art Education)

College of Communications and Fine Arts

(Bachelor of Arts)

College of Education

(Bachelor of Science)

L. Brent Kington, Director

School of Art and Design

Telephone - 618-453-4315

Allyn Building, Room 109

Joyce Jolliff, Academic Adviser

Telephone - 618-453-4313

Allyn Building, Room 103

Jacquelyn Bailey

Chief Academic Advisor

Teacher Education Services

Telephone - 618-453-2354

Wham Building, Room 135

The B.A. program in art education prepares students for earning the Illinois Standard Special Certificate to teach art on grade levels Kindergarten through twelve. Students learn studio practices, art history, basic art criticism, and aesthetics as these apply to the art classroom. The B.A. program in general studio enables undergraduate students to pursue studies in studio practices within more than one studio area of the School of Art and Design. The B.A. program in art history enables students to develop knowledge of art history, together with a strong studio component, and understanding of aesthetics leading to possible graduate studies, museum and gallery positions, and higher education instructional and research positions. The program contains 66 hours in art.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	-
GEB 114 or 301	American Government or American History ³	-	3
GEC	Humanities ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE 201	Healthful Living	-	2
ART 100 a & b	Basic Studio	3	3
ART 107	Fundamentals of Art	3	-
ART 110	Intro to Drawing I	3	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science	3	-
GEB	Social Science (select)	3	-
GEB 202	Introduction to Psychology ³	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
ART 120	Introduction to Drawing II	-	3
ART 201	Beginning Painting	-	3
ART 203	Beginning Sculpture	3	-
ART 207 a & b	Intro to Art History	3	3
ART 204, 205 or 206	Beginning Ceramics, Metals, or Fibers	-	3
		<u>15</u>	<u>15</u>

¹ Three hours of Science are to be taken during the third year.

² Certain specializations require particular courses in the GEC area; art education requires a literature course and art history requires eight hours of French or German. All specializations in the School of Art and Design receive six hours of GEC substitution for Art 100 a or b and Art 207 a. During their third and fourth years, students in art education take 25 hours of professional education courses and 20 hours of the following: art education courses (10 hours), art history courses (3 elective hours), and studio courses (7 elective hours). During their third and fourth years, art history students take 30 hours from a rich variety of art history courses, and eleven hours of courses from outside of the department.

³ Students whose major specialization is art education must fulfill certain requirements in General Education. They must have at least a 'C' in GED 101 and 102 and also in their GEC literature course. From GEB, they must select GEB 202, psychology, and GEB 300, American History, or GEB 114, American Government. From GEC, they must select GEC 213, East Asian Civilization. From GEE, they must select GEE 201, Healthful Living, and two hours of activity.

⁴ Art education students must take Art 204, Beginning Ceramics; Art 205, Beginning Jewelry and Metalsmithing; and either Art 202, Intro to Printmaking or Art 206, Beginning Fibers.

Art Education As A Major

Students may pursue Art Education within either the College of Communications and Fine Arts or the College of Education. A student interested in the major should become aware of the requirements for entrance into the Teacher Education Program.

AUTOMOTIVE TECHNOLOGY
College of Technical Careers
(Associate of Applied Science)

James White, Program Coordinator
Telephone - 618-985-4024
Carterville Campus

There are many unique features of the automotive technology program. One of the most outstanding features is our ability to meet the vast number of occupational goals of our students. Our graduates have obtained employment as service station owners, service technicians, service advisers and writers, service managers, parts managers, and owners of automobile dealerships. Beyond the associate degree, students may choose to continue their education and obtain a bachelor's degree and thus double their occupational opportunities. Positions are available as manufacturers district service manager, automotive instructor, technical writer, general service manager and training center director, to name a few.

Another unique feature is that SIUC's automotive technology program was the first program in Illinois to be certified by meeting the rigid standards of the National Institute for Automotive Service Excellence.

The student is expected to provide his/her tool kit consisting of both domestic and metric tools and supplies. The cost of the tool set is approximately \$400 to \$600.

During the first year, students are required to enroll in a series of core courses which provide them with the opportunity to obtain and develop those skills and technical information considered essential to all service technicians. During the second year students may choose any four of eight possible areas. In most cases, these courses will deal with advanced instruction in areas covered in the core courses.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	3	-
GED 153	Public Speaking	-	3
AUT 101	Automotive Engines & Fuel Systems Lab	3.5	-
AUT 121	Basic Automotive Engines&Fuel Systems Theory	3	-
AUT 103	Brakes and Chassis Lab	3.5	-
AUT 123	Brakes and Chassis Theory	3	-
AUT 115	Related Shop Lab	1	-
AUT 105	Engine Electrical Lab	-	3.5
AUT 125	Engine Electrical Theory	-	3
AUT 107	Drive Trains Lab	-	3.5
AUT 127	Drive Trains Theory	-	3
CTC 105A	Technical Mathematics	-	2
		<u>17</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GE8	Elective	-	3
CTC 107a,b	Applied Physics	4	-
AUT *	Automotive Lab & Theory	13	13
GED 102	English Composition II	-	3
		<u>17</u>	<u>19</u>

*200-Level Automotive Courses: With the aid of an advisor and availability of courses, the student must choose four areas of study (two per semester) from the following list of courses.

	<u>Lab</u>	<u>Theory</u>
Automatic Transmissions	AUT 201-3.5	AUT 221-3
Automotive Body and Chassis Electrical	AUT 203-3.5	AUT 223-3
Automotive Air Conditioning	AUT 204-3.5	AUT 224-3
Electronic Fuel and Emission Controls	AUT 205-3.5	AUT 225-3
Brakes and Suspension Systems	AUT 207-3.5	AUT 227-3
Engine Rebuilding	AUT 208-3.5	AUT 228-3
Engine Electronics	AUT 209-3.5	AUT 229-3
Diesel Fuel and Electrical Systems	AUT 210-3.5	AUT 230-3

**A TWO YEAR ASSOCIATE DEGREE COOPERATIVE PROGRAM
AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM**

Charles Romack
ASEP Supervisor
Telephone - 618-985-4024
Carterville Campus

The General Motors Automotive Service Educational Program (ASEP) is a two year technical program designed to provide highly competent automotive service specialists for GM dealerships. The approved curriculum will be delivered in a format and sequence identified and designed by General Motors representatives and the faculty of the automotive technology program at SIUC. The program leads to an associate in applied science degree with a major in automotive technology. The program requires student attendance in the classrooms and laboratories of SIUC and cooperative work experience in GM dealerships.

The entire program is 24 months with approximately one-half of the time designed for a technical academic background at SIUC. The remaining time is allocated for on-the-job experience at sponsoring GM dealerships. Each block of curriculum course areas is followed by an immediate dealership work experience time period which reinforces the academic curriculum. It is essential for the success of the program that academic/laboratory and practical work experience are closely aligned for maximum student learning and retention.

<u>First Year</u>		<u>Credit</u>	<u>Hours</u>	<u>Weeks</u>
AUT 125	Engine Electrical	3	80	4
AUT 229	Engine Electronics	3	80	4
AUT 121	Basic Engines & Fuel Systems	3	80	2
GEB	Elective	3	64	
GED	English Composition	3	48	
AUT 219	Co-Op Work Experience at Dealership	8	840	16
AUT 123	Brake Systems	3	80	4
AUT 227	Steering/Suspension Systems	3	80	4
CTC 105a	Technical Mathematics	2	32	
		31	1384	

<u>Second Year</u>		<u>Credit</u>	<u>Hours</u>	<u>Weeks</u>
AUT 219	Co-Op Work Experience at Dealership	7	560	12
AUT 223	Body & Chassis Electrical Systems	3	80	4
AUT 224	Automotive Air Conditioning Systems	3	80	4
AUT 225	Elec. Fuel & Emission Controls-Theo	3	80	4
AUT 205	Elec. Fuel & Emission Controls-Lab	3.5	112	4
CTC 107a	Applied Physics	2	32	
CTC 107b	Applied Physics	2	32	
GED 153	Public Speaking	3	32	
AUT 219	Co-Op Work Experience at Dealership	4	640	16
AUT 127	Drive Train Systems	3	80	4
AUT 221	Automatic Transmission Systems	3	80	4
GED 102	English Composition II	3	43	
		39.5	1856	

ADVANCED TECHNICAL AUTOMOTIVE STUDIES THROUGH THIRD YEAR SPECIALIZATIONS

Any student who has successfully completed the associate in applied science degree in automotive technology either at SIUC, a community college or other accredited post-secondary institution may continue advanced technical automotive studies for a third year specialization. These 300-level (junior year) automotive courses may also be applied toward the bachelor of science degree in Advanced Technical Studies, provided other degree requirements have been completed. Two specializations are available.

Advanced Studies in Automotive Electronics

AUT 301-A	5	Electronic Engine Controls
AUT 301-B	5	Computer Controlled Fuel & Emission Systems
AUT 301-C	5	Body & Chassis Electronics
AUT 301-D	5	Comfort Control Systems

Advanced Studies in Automotive Power Trains

AUT 302-A	5	Engine Machining Techniques
AUT 302-B	5	Diesel Fuel Injection Service
AUT 302-C	5	Conventional & Front Wheel Drive Power Trans.
AUT 302-D	5	Uni-body & Front Wheel Suspension & Brake Sys.

Each area of study in these specializations requires twenty clock hours of laboratory per week for eight weeks. Pre-requisite for these specializations is completion of the associate degree program or consent of the program coordinator.

In addition to the third year specialization, students have the option of designing a course of study that meets their specific occupational goals and also earn a bachelor of science degree in Advanced Technical Studies.

BACHELOR OF SCIENCE DEGREE OPTIONS AT SIUC

Graduates of associate in applied science programs in automotive technology at SIUC or other accredited post-secondary institutions have a variety of options in pursuing the bachelor's degree at SIUC. These include:

A four year program designed for those interested in management positions in the automotive industry. This is the bachelor of science degree program in Advanced Technical Studies with an emphasis on automotive management or automotive service operations.

A four year teacher training program designed to prepare students as automotive instructors. This is the bachelor of science degree in vocational education studies.

Two specialized five year cooperative programs with the Oldsmobile and Buick Divisions of General Motors are designed to develop graduates as district service managers. These programs are also offered under the bachelor of science degree program in Advanced Technical Studies, but admission requires concurrence of the corporations.

Additional automotive educational opportunities available at SIUC include a cooperative program with MOOG/EVERCO which is designed to train technical representatives.

The program of professional flight instruction at SIUC is designed for students who wish to pursue the AAS Aviation Flight/B.S. in Aviation Management program. Admission to SIUC's BS in Aviation Management normally requires completion of an SIUC or equivalent associate degree in a technical aviation curriculum. As a result, freshmen students who wish to pursue the BS in Aviation Management must apply for admission to the Aviation Flight degree program.

NOTE: Admission to the Aviation Flight program at SIUC is determined by a selective admission process whereby the most qualified students are selected from applicants. All students who wish to pursue Aviation Flight as a major or students who wish to pursue Aviation Flight as a second major must complete the Aviation Flight application process in addition to the application to SIUC.

Aviation flight at SIUC is conducted at the Southern Illinois Airport, approximately three miles from the main campus. Free bus transportation to and from the airport is provided by the University. The SIUC Aviation Flight program is an FAA 141 approved certificated Pilot School with examining authority, providing comprehensive flight training which includes instruction for the most basic certificate (Private Pilot) to the most advanced (Airline Transport Pilot).

Additional costs are incurred by students pursuing professional aviation. Realistically, students should plan on spending approximately \$13,000 in order to obtain the flight qualifications needed for employment. These flight costs are in addition to tuition and fees, room and board, etc. Flight instruction required in the Aviation Flight curriculum includes the Private Pilot, Commercial/Instrument, and Multi-Engine licenses and ratings.

AVIATION FLIGHT CURRICULUM

FIRST YEAR

Semester I

AF 200	3
AF 201	5
ATA 101	3
ATA 200	4
	<u>15</u>

Semester II

AF 202	3
AF 203	5
AF 204	5
GEA 330	3
	<u>16</u>

SECOND YEAR

Semester III

AF 205	3
AF 206	4
GED 101	3
GED 107	3
	<u>13</u>

Semester IV

AF 260	4
AF 207	2
GED 102	3
Physics 203a, 253a or	
CTC 107a & b	4
GED 153	3
	<u>16</u>

Post-Associate Aviation Flight Courses

Additional courses are available for graduates of the associate degree program who wish to become FAA certified flight instructors for single engine, multi-engine and instrument.

NOTE: Availability of post-associate courses is subject to the availability of instructional staff and equipment.

* Also see Aviation Management.

** Transfer students with more than 26 semester hours of coursework and previous flight experience should contact the Aviation Counselor to determine whether they can apply directly to the bachelor's degree program or should apply for admission to the Aviation Flight associate degree program.

AVIATION MAINTENANCE TECHNOLOGY

College of Technical Careers
(Associate in Applied Science)

Larry C. Staples, Coordinator
Telephone - 618-536-3371
Southern Illinois Airport

Upon graduation, the student receives the Associate in Applied Science degree, and depending on his or her area of concentration, is qualified to obtain the Federal Aviation Administration (FAA) Airman Airframe and Powerplant certificate as an A & P maintenance technician.

Skilled technicians are in demand in the rapidly-growing aviation industry, both in airlines and general aviation. The industry demands people who possess a wide range of knowledge and ability provided by general education as well as special technical training.

The student studies reciprocating and jet powerplants, hydraulics, fuel systems, ignition-starting systems, carburetion and lubricating systems, instruments, and powerplant testing in coordinated classroom and laboratory work. The program is fully accredited by the Federal Aviation Administration.

<u>FIRST SEMESTER</u>		<u>CR. HR.</u>	<u>LEC. HR.</u>	<u>LAB HR.</u>
GED 101	English Composition	3	3	0
*CTC 105A	Technical Math	2	2	0
AMT 111	Materials Processing	4	3	2
AMT 112	Aircraft Electricity	4	2	5
AMT 113	Federal Aviation Regulations	2	2	2
AMT 114	Aircraft Weight and Balance	2	2	2
AMT 201	Applied Science	2	2	2
TOTALS		19	16	13
<u>SECOND SEMESTER</u>				
AMT 116	Aircraft Instruments	3	2	2
AMT 210	Aircraft Electrical Systems	2	1	3
AMT 211	Reciprocating Powerplant	5	3	6
AMT 212	Carburetion, Lubrication	5	3	4
AMT 213	Ignition Systems	5	3	3
TOTALS		20	12	18
<u>THIRD SEMESTER</u>				
GED 102	English Composition II	3	2	0
AMT 203	Aircraft Aerodynamics	2	2	2
AMT 206	Metals Processing	3	2	3
AMT 214	Propellers	3	2	2
AMT 215	Powerplant Testing	5	3	4
AMT 216	Jet Propulsion Powerplant	6	4	4
TOTALS		22	15	15
<u>FOURTH SEMESTER</u>				
GEB	Elective	3	3	0
GEB	Elective	3	2	0
GED 152	Interpersonal Communication	3	3	0
AMT 110	Aircraft Structures	4	2	5
AMT 204	Aircraft Hydraulics	4	2	4
AMT 205	Cabin Environment and Jet Transport Systems	6	4	4
TOTALS		23	16	13
<u>SUMMER SESSION (8 weeks only)</u>				
AMT 225	Aircraft Inspections	6	5	15
AMT 230	Powerplant Inspections	6	5	15
TOTALS		12	10	30

*Students who have intermediate algebra and plane geometry are advised to take a more advanced mathematics course.

A minimum of 84 hours credit is required for the Associate Degree in Applied Science. Students who wish to qualify for the FAA Airframe and Powerplant License are required to take eight weeks of summer school.

Aviation Maintenance Technology As A Major

Aviation maintenance technology facilities are located at the Southern Illinois Airport, three miles NNW of the Carbondale campus and three miles ENE of Murphysboro, Illinois.

Students entering the aviation maintenance technology program for the first time must purchase a basic tool kit and special study materials costing approximately \$400.00.

The Aviation Maintenance Technology program is acclaimed by many branches of the aviation industry and government agencies as the best school in the nation. It prepares students on animated training panels representing the modern jet transports such as: Boeing 707, 727, 747 and Douglas DC8, DC9, and DC10 aircraft.

Students may join various student organizations such as Alpha Eta Rho International Aviation Fraternity, the Rotary Wing Association of America, a flying club, an avionics club and even a radio control model airplane club. Members of these organizations often sponsor events like fly-ins, air shows, and field trips to sites of aviation activities.

Executives in the aviation industry constitute an advisory committee which serves the program.

Representative First Job Titles: A&P Mechanic, Maintenance Technician.

AVIATION MANAGEMENT
College of Technical Careers
(Associate in Applied Science)

David A. NewMyer, Ph.D., Coord.
Telephone - 618-453-8898
Technical Careers Building
Room 126

The College of Technical Careers offers a bachelor of science in aviation management. The aviation management major is designed to build upon technical training and experience in aviation maintenance, flight, avionics technology, air traffic control, aircraft operations support or other aviation related fields. An AAS degree in an aviation field is preferred.

The program of study for the aviation management major combines SIUC general education requirements, program major requirements, approved major electives, and Advanced Technical Studies core courses in a comprehensive and flexible curriculum. Students may pursue the Federal Aviation Administration approved Airway Science curriculum and the United Airlines/SIUC cooperative curriculum through this program. The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or proficiency examinations. Students who have completed an A.A.S. degree may be eligible for the Capstone option. This option reduces the hours required in general education from 45 to 30.

First Year**

GEA	Science (select)	3	3
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 107	Intermediate Algebra	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
Electives or	Technical Specialization	7	5
		<u>18</u>	<u>17</u>

Second Year**

GEA	Science (select)	3	-
GEB	Social Science (select)	3	3
GEC	Humanities (select)	-	3
GED 102	English Composition II	-	3
GED 152	Interpersonal Communication or		
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (Activity)	-	2
Electives or	Technical Specialization	9	8
		<u>18</u>	<u>19</u>

*GE Total = 46 hours. See advisor to determine eligibility for Capstone option.

**First and second year courses can also follow one of the SIUC AAS degree programs in aviation or the Airway Science curriculum.

Third and Fourth Years

ATS core courses -- 12 hours required

ATS 364	Work Center Management	3
ATS 416	Applications of Technical Information	3

Two of the following:

ATS 332	Labor Management Problems	3
ATS 383	Data Interpretation	3
ATS 421	Professional Development	3
		<u>12</u>

Aviation Management Specialization Requirements -- 15 hours required

ATS 370	Airport Planning	3
ATS 371	Aviation Industrial Regulations	3
ATS 372	Airport Management	3
ATS 373	Airline Management	3
ATS 374	General Aviation Operations	3
ATS 375	Legal Aspects of Aviation	3
ATS 376	Aviation Maintenance Management	3
ATS 377	Aviation Safety Management	3
ATS 378	National Airspace System	3
ATS 386	Fiscal Aspects of Aviation Mgmt.	3
ATS 401	Current Issues in Aviation Mgmt.	3
		<u>15</u>

Aviation Management Specialization electives - 9 hours required.
(Must be approved by advisor).

Internship, Independent Study, or approved equivalent - 12 hours required.
Approved career electives - 26 hours (AAS in an aviation-related field preferred).

TOTAL: 120 hours

Avionics, or aircraft electronics, is a rapidly growing field requiring highly skilled technicians for work in the development, installation, and maintenance of the sophisticated avionics systems required for effective utilization of modern day aircraft by the aviation industry. The avionics technician finds opportunities for employment with the airline industry, general aviation, and in aircraft manufacturing, where employees will install, maintain, test and repair airborne communications and navigation systems, airborne radar systems, and related equipment.

All instruction is programmed in a balanced combination of classroom lecture and actual "hands on" laboratory experience under the supervision of instructors who have extensive experience and expertise in their respective fields.

The student will have courses in basic direct current, alternating current, electrical power systems, airborne, auxiliary power systems, electrical generation and distribution, load transfer, solid state devices, aircraft communications and navigation systems, instrumentation systems, and aircraft integrated flight systems, receivers, and transceiver, pulse and microwave systems, antenna types, wave propagation and transmission lines, and Federal Aviation Administration and Federal Communication Commission regulations.

In addition to regular University tuition and fees, the student is required to purchase basic tool kits and study materials at an approximate cost of \$400.00.

<u>First Semester</u>		<u>CR.</u>	<u>LEC.</u>	<u>LAB</u>
ATA 120	Avionics Circuit Analysis	8	8	0
ATA 125	Avionics Laboratory I	5	0	10
ATA 101	Avionics Systems	3	3	0
CTC 105 a,b	Technical Mathematics	4	4	0
TOTALS		20	15	10
<u>Second Semester</u>				
ATA 232	Avionics Electronic Circuits	10	5	10
ATA 210	Aircraft Electrical Systems	2	1	3
GED 152	Interpersonal Communications	3	3	0
GED 101	English Composition	3	3	0
TOTALS		18	12	13
<u>Third Semester</u>				
ATA 203	Avionics Shop Practices	3	3	0
ATA 204	Avionics Shop Lab	3	0	6
ATA 235	Flight System Theory	6	6	0
ATA 236	Avionics Laboratory	5	0	10
GED 102	English Composition II	3	3	0
TOTALS		20	12	16
<u>Fourth Semester</u>				
ATA 233	Aircraft Communications & Navigation System Theory	5	5	0
ATA 234	Avionics Laboratory	6	0	12
ATA 237	Avionics Logic Circuits & Pulse System Theory	5	5	0
ATA 238	Avionics Laboratory	5	0	10
TOTALS		21	10	22
<u>Post Associate Courses*</u>				
ATA 302	Avionics Laboratory	3	-	-
ATA 303	FCC Regulations	2	-	-
ATA 304	Avionics Radar System Theory	4	-	-
ATA 350	Microcomputers for Aviation Professionals	4	-	-
ATA 360	Avionics Data Bussing & Elt. Flt. Instr. Sys.	5	-	-
ATA 365	Avionics Data Bussing & Elt. Flt. Laboratory	4	-	-
ATA 370	Reliability, Maintainability, Fault Prediction and Analysis	5	-	-

*To meet federal and industry requirements, the student should plan to take these additional courses offered as a post-associate specialty.

A minimum of 78 hours credit is required for the associate degree.

Representative First Job Titles: Line Avionic Repairperson, Shop Repairperson, Maintenance Foreman, Company Representative.

BIOLOGICAL SCIENCE¹

College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

This curriculum is designed to give the student a broad, yet intensive, education in the biological sciences preparatory for various professions, especially the teaching of biology at the secondary level. The work may be taken in either the College of Science or the College of Education. The science requirement for this concentration is the same in both colleges.

The biological sciences curriculum consists of courses selected from General Education Area A and the Departments of Botany, Microbiology, Physiology, and Zoology. A student selecting biological sciences as his or her concentration does not need to take a secondary concentration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 301	American History ²	-	3
GEC	Humanities (select) ²	-	3
GED 101	English Composition ³	3	-
GED 102	English Composition II ³	-	3
GED 153	Public Speaking	3	-
BOT 200	General Botany and Lab ³	-	4
MATH 111	Pre-Calculus ^{3,4}	5	-
ZOOL 220a,b	Diversity of Animal Life	4	4
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 114	American Government	3	-
GEB 202	Introduction to Psychology	-	3
GEC	English Elective in Humanities	3	-
GEC	Humanities (select) ²	3	-
GEE	Activity	2	-
GEE 201	Healthful Living	2	-
BOT 204	Plant Diversity and Lab	-	4
CHEM 222a,b	Introduction to Chemical Principles & Lab ³	4	4
PHSL 310	Introductory Human Physiology	-	5
		<u>17</u>	<u>16</u>

¹ See also the program under the College of Liberal Arts.

² Refer to the section General Education for the Transfer Student.

³ Approved substitutes for General Education.

⁴ Or, Mathematics 108 and 109, or 140, or 141.

Biological Science As A Major

Foreign Language is not required for students pursuing the Bachelor of Science in Education degree.

For specific major requirements see the Undergraduate Catalog.

Courses required for teacher certification include: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213).

Biology has long been known as the "Queen of the Sciences." This title emphasizes its breadth and interdisciplinary nature. To solve the problems of biology requires study in a number of subject matter areas. The biology curriculum is designed to give the student a broad, yet intensive education preparatory for various professions as well as the teaching of biology at the secondary level. The work may be taken in either the College of Science or the College of Education. The science requirement for this concentration is the same in both colleges. The curriculum consists of course selected from the Departments of Botany, Microbiology, Physiology, and Zoology.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	-	1
*FL	Foreign Language ⁴	4	4
*MATH 108, 109	College Algebra and Trigonometry ^{3,4}	3	3
ZOOL 220a, b	Diversity of Animal Life (Invertebrate, Vertebrate)	4	4
		<u>17</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	6	-
GEC	Humanities (select) ²	-	2
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being ²	-	3
*BOT 200	General Botany and Lab ⁴	4	-
*BOT 204	Plant Diversity and Lab ⁴	-	4
*CHEM 222a, b	Introduction to Chemical Principles ⁴	4	4
PHSL 210	Introductory Human Physiology ⁴	-	5
		<u>17</u>	<u>18</u>

Third and Fourth Years

The last two years of a student's program should include completion of three additional hours in GEA, GEB, or GEC, and the following courses in biological sciences: Microbiology 301, 302 (7 hours), any two of Biology 305, Biology 306, Biology 307, Biology 308, or Biology 309 (6 hours), and any electives in biological sciences at the 400-level, for 6 hours.

*Approved substitutes for General Education.

¹ See also the program (B.S.) under the College of Education.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³ Math 111 or 140 or 141 substitutes for Math 108, 109.

⁴ Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences.

Biological Sciences As A Major (No minor required)

The increasing complexity of the world and the nature of its problems emphasize the importance of the study of biology. The problems of the world that are most forcibly felt are biological--population increase, nutrition, food production, energy supplies, medicine, sanitation, waste disposal, toxicities, and a host of others. Although advanced work (M.A. or Ph.D.) has become a basis for professional preparation in the biological sciences, many technician positions exist in industry for people who cannot immediately pursue graduate study or who do not care to do so.

Representative First Job Titles: Venereal Disease Investigator, Aide-Veterinary Clinic, Pharmaceutical Sales, Fishery Bacteriologist, Quality Control Specialist, Medical Laboratory Assistant, Medical Bacteriologist, Researcher-Chiropractic College, Nutrition Specialist, Plant Protection Scientist, Technical Marketing Representative, Research Technician, Technical Library Operator, Biological Warfare Officer, Technical Sales, Soil Conservation Technician, Soil Bacteriologist, Commodities Inspector, Food and Drug Inspector, Bio-Specimen Technician, Aquatic Biologist, Wildlife Biologist, Environmental Analyst, Fish and Wildlife Game Warden.

BOTANY¹
College of Science
(Bachelor of Science)

Dr. John Voigt, Department Advisor
Telephone - 618-536-2331
Life Science II, Room 479

Botany is a broad science that includes many specialties. For example, a person who has a quantitative turn of mind and enjoys mathematics or chemistry might find genetics or biochemistry exciting, whereas a person who has always enjoyed outdoor activity might be attracted to systematic botany or ecology. Plant Morphology might appeal to a person who enjoys observation and interpretation, but plant physiology might have more appeal for a person who prefers experimentation. The exact courses that should be selected by a student who wishes to prepare for a career in botany or for graduate study will vary somewhat depending upon the area of plant science in which he or she intends to specialize.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	-	1
*BOT 200	General Botany and Lab ³	4	-
*BOT 204	Plant Diversity and Lab ³	-	4
*FL	Foreign Language ³	4	4
*MATH 108, 109	College Algebra and Trigonometry ³	3	3
		<u>17</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	6	-
GEC	Humanities (select) ²	3	-
GED 152	Interpersonal Communication	3	-
GEE	Human Health and Well Being ²	1	2
*BIOLOGY 306	Cellular Biology	-	3
BOTANY	Elective	-	4
BOTANY 304	Plant Classification	3	-
*CHEM 222a,b	Introduction to Chemical Principles ³	-	5
		<u>16</u>	<u>14</u>

*Approved substitutes for General Education.

¹See also the program under the College of Education (Bachelor of Science).

²To determine what courses may be taken to satisfy this program, please refer to the section, General Education for the Transfer Student.

³Students in the College of Science must take one year of foreign language, one year of math, 6 semester hours of physical sciences, and 6 semester hours of biological sciences.

Third and Fourth Years

The last two years of a student's program should include completion of three additional hours in GEA, GEB, or GEC, Biology 305, Biology 307, and the following course in botany: Botany 320 and botany electives totaling 16 hours, distributed so as to include at least one course from each of the following groups:

Group A. 400, 404, 405, 406, 411, 412, 413, 414, 421

Group B. 409, 410, 430, 439, 449, 450, 451, 485

Group C. 440, 443, 444, 448

Group D. 425a, 425b

Electives planned to include courses in Computer Science, Microbiology, Physics, Statistics and Zoology.

Botany As A Major

As a general rule, a student who intends to apply for admission to a graduate school for study for an advanced degree in botany should include the following in his or her undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many botany and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in botany who have an overall grade point average of 3.00 or better and an average in botany courses of 3.25 or better. The honors student should enroll in Botany 492 during some semester of both junior and senior years for a total of no fewer than three semester hours.

Representative First Job Titles: Agricultural Sales, Biological Product Development Scientist, Botanist, Ecologist, Economic Botanist, Horticulture Technician, Plant Breeding Technician, Plant Ecologist, Plant Morphologist, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Plant Protection Technician, Quality Control Specialist, Technical Library Operator, Museum Curator, Biotechnologist, Industrial Bacteriologist, Naturalist, Conservationist, Agricultural Commodities Inspector, Researcher, Teacher, Cytologist.

BUSINESS AND ADMINISTRATION
College of Business and Administration (COBA)
(Bachelor of Science)

Dr. Larry Chapman
Assistant Dean
Telephone - 618-536-4431
Henry J. Rehn Hall, Room 113

The Bachelor of Science degree program with a major in Business and Administration is intended for those students with personal and professional goals which entail a blending of coursework offered by the College of Business and Administration with a secondary concentration comprised of 20-23 semester hours of coursework offered by other schools and colleges of the University. This combining of interests--business with an outside field--can result in a unique program. For example, a student with international business interests can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine coursework in food and nutrition with business and administration. The outside field (or secondary concentration) must be consistent with a specific career objective or career development plan and at least 15 semester hours must be structured to achieve this objective. Individual programs are subject to the approval of the Dean of the College of Business and Administration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	-	3
*GED 152,153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	3	-
*ACCT 230	Managerial Accounting	-	3
*CS 212 or	Intro. to Computer Programming ³		
CIP 229	Computing for Business Admin. ³	-	3
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*FIN 270	Legal & Social Environment of Business ³	3	-
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		<u>15</u>	<u>15</u>

*Required course for a major in COBA.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

²ECON 214 or 215 counts toward GEB credit.

³Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Business and Administration major, the student will take upper level business courses which will prepare the student in the student's chosen area. These courses include the remaining Core requirements, 12 additional credits in COBA, and at least 20 credits in the secondary concentration.

Business and Administration As A Major

Secondary concentration required; foreign language not required.

Graduate degrees available; MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

See College of Business and Administration listing for their retention policy and the 40% rule.

BUSINESS ECONOMICS

College of Business and Administration (COBA)
(Bachelor of Science)

Dr. Iqbal Mathur
Chairperson, Dept. of Finance
Telephone - 618-453-2459
Henry J. Rehn Hall, Room 232

The Business Economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis in the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master of Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of post graduate study.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	-	3
*GED 152, 153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	3	-
*ACCT 230	Managerial Accounting	-	3
*CS 212 or	Intro. to Computer Programming ³	-	3
CIP 229	Computing for Business Admin. ³		
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*FIN 270	Legal & Social Environment of Business ³	3	-
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		<u>15</u>	<u>15</u>

*Required course for a major in COBA.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

²ECON 214 or 215 counts toward GEB credit.

³Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Business Economics major, the student will take upper level business courses which will prepare the student for an exciting career in the Business Economics area. These courses include the remaining Core requirements and 21 credits in the Business Economics area.

Business Economics As A Major

Neither minor nor foreign language required.

Graduate degrees available; Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The program is accredited by the American Assembly of Collegiate Schools of Business (AACSB). See College of Business and Administration listing for their retention policy and the 40% rule.

Representative First Job Titles: Account Executive, Business & Economics Statistician, Business Planning Officer, Economic Analyst, Economic Forecaster, Investment Analyst, New Business Researcher, Organization Planning Officer, Systems Evaluator, Marketing Representative, Operating Plans and Procedures Officer, Operations Research Analyst, Labor Economist, Labor Relations Officer, Workman's Compensation Officer, Benefits Analyst, Industrial Economist, Industrial Labor Relations Specialization Officer, Business Analyst, Loan Administrator, Loan Examiner.

The Department of Chemistry and Biochemistry has a long and distinguished record for its programs at the undergraduate level. These courses are designed to give thorough training in theory and practice. Three undergraduate degrees are offered allowing a student to select a program best suited to his/her future goals.

The Bachelor of Science degree in Education is administered by the College of Education. It is provided for those who wish to become secondary school chemistry teachers.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 114	American Government	-	3
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	P.E. Activity	2	-
GEE 201	Healthful Living	-	2
GE	Electives	-	2
CHEM 222a,b	Introduction to Chemical Principles ³	4	4
MATH 111	Pre-Calculus ³	5	-
		<u>17</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GEB 202	Introduction to Psychology	3	-
GEB 301	U.S. History ²	-	3
GEC	English Elective in Humanities (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 153	Public Speaking	-	3
CHEM 226	Introduction to Quantitative Chemical Principles	5	-
MATH 150	Calculus I	4	-
PHYSICS 203a/ 253a/	Collete Physics/Lab	-	4
		<u>15</u>	<u>16</u>

¹See also the program under College of Science.

²Refer to the section General Education for the Transfer Student.

³Approved substitutes for General Education.

For specific major requirements, see the Undergraduate Catalog.

Chemistry As A Major

The following courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). General Education science courses must include one laboratory class.

CHEMISTRY¹
College of Science
(Bachelor of Arts)
(Bachelor of Science)

Dr. James Tyrrell,
Department Chair
Telephone - 618-453-5721
Neckers Building, Room 224

The Department of Chemistry and Biochemistry has a long and distinguished record for its programs at the undergraduate level. These courses are designed to give thorough training in theory and practice. Three undergraduate degrees are offered allowing a student to select a program best suited to his or her future goals.

The Bachelor of Science degree from the College of Science is for those who will prepare for graduate school or who plan to be professional chemists. Those completing this degree meet the certification requirements of the American Chemical Society.

The Bachelor of Arts degree, also from the College of Science, offers the student greater choice in selecting his or her program. One option gives the student the minimum preparation for graduate work in Chemistry or Biochemistry; another prepares for medicine, dentistry and other health sciences. A third option in administration is also offered. Co-sponsored by the College of Science and Business and Administration, this option prepares chemistry students for careers in management, marketing, and production rather than research and development.

First Year		Fall	Spring
GEC	Humanities (select) ³	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
BIOL	Biological Sciences (not GE-A) ²	3	3
*CHEM 222a,b	Introduction to Chemical Principles	4	4
MATH 111	Pre-Calculus ²	5	-
MATH 150	Analytic Geometry and Calculus ²	-	4
		15	17
Second Year		Fall	Spring
GE-B	Social Sciences (select) ³	3	-
GE-D 153	Public Speaking	-	3
CHEM 226a,b	Intro to Quantitative Chemistry Principles	3	2
CHEM 344	Organic Chemistry	3	-
CHEM 345	Laboratory Techniques	2	-
CHEM 346	Organic Chemistry	-	3
CHEM 349	Laboratory Techniques	-	2
MATH 250	Calculus II	-	3
*FL	(German Recommended) ²	4	4
		15	17

*Approved substitutes for General Education.

¹ See also the program under the College of Education.

² Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences. German, French or Russian are recommended if language requirement is not previously satisfied.

³ Refer to the section General Education for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives, and on fulfilling remaining General Education requirements. The B.S. in the College of Science requires three semesters of calculus based physical chemistry, a course in instrumental analysis and advanced courses from biochemistry, inorganic chemistry, organic chemistry or physical chemistry. The B.A. degree is slightly less demanding and the available options allow a program to be tailored to the needs of the individual.

Chemistry As A Major

Students receive their classroom instruction from among 25 faculty members, all with Ph.D. degrees. Our building is quite new, and our teaching equipment is modern. We take pride in the quality of professional training that is available to our students. Those who are interested in careers in research or college teaching will continue their education in an appropriate graduate school. Others may enter professional schools or select immediate employment in the industry. The chemist typically finds work in private or government laboratories, and his or her activities may be in research and development, sales, or analysis and control of manufacturing processes.

Representative First Job Titles: Research-Pharmaceutical, Biochemist, Biochemical Technologist, Research Chemist, Quality Control Chemist, Analytical Chemist, Organic Chemist, Inorganic Chemist, Physical Chemist, Food Chemist, Soil Chemist, Agricultural Chemist, Paint Chemist, Chemical Laboratory Technologist, Dye Chemist, Geochemist, Manufacturer's Representative, Nuclear Chemist, Product Studies and Testing Chemist, Textile Chemist, Water Purification Chemist, Environmental Analyst, Toxicologist, Pollution Control Chemist.

The visual and aural world of still and moving images: this is the world of Cinema and Photography. From the history, theory, and appreciation of past work in motion pictures and still photography, students move into the challenges of using still and moving images to document, to express, and to communicate the artistic perspective that these media of light and shadow make dramatic. The curriculum in Cinema and Photography is structured to allow both professional and fine arts applications of these exciting approaches to visualization, allowing preparation also for educational careers in film and photography along with an exploration of the social implications of still and moving images. In each instance, students may tailor the program to meet particular interests and career plans.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	<u>2</u>	<u>2</u>
		14	14
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Studies (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
GE Elective	From A, B or C (select) ¹	3	-
*C&P 310 or 360	History of Still Photography or Film Analysis	3	-
*C&P 311 or 368	Contemporary Photography or Intro to Cinema Theory	-	3
*C&P 320 or 355	Basic Photography or Film Production I	4	-
*C&P 322 or 356	Color Photography or Film Production II	-	4
		<u>16</u>	<u>16</u>

¹ Refer to section General Education for the Transfer Student.

*Requirements for Cinema and Photography major.

Cinema And Photography As A Major

This department is recognized by national photographic organizations as one of the leading departments in the country.

A grade of 'C' is required in prerequisite courses and a 2.0 average must be maintained in cinema and photography courses in order to remain in the major.

No minor required. No foreign language required. The Master of Fine Arts degree in Cinema and Photography is also available.

Students must successfully complete the core requirements, and portfolios and/or films must be submitted for entrance into certain courses.

Students purchase supplies for many cinema and photography courses. In courses which involve analysis and screening of a number of films, a screening fee is assessed. Lab fees may be required for certain other courses.

Only transfer credit of an exceptional nature has been accepted to fulfill the major requirements in Cinema and Photography.

The University reserves the right to retain examples of the work of each student in each photography class and to make and retain prints of all films made as part of course work. Such photographs and films become part of a permanent departmental collection from which exhibitions may be prepared.

Representative First Job Titles: Studio Assistant, Illustrator, Cameraperson, Visual Information Specialist, Color Technician, Sales Manager, Advertising Agent, Newsfilm Editor, Film Production Staff, Film Planner, Free Lance Photographer, Documentary Film Specialist, Quality Control Officer, Photographer, Multi-Media Specialist, Film Editor, Production Assistant, Assistant Sound Recorder/Mixer, Lighting Technician, Independent Filmmaker, Independent Producer, Photo-Journalist, Stylist, Graphic Arts Technician, Communications Specialist, Medical Illustrator, Teacher, Screenwriter, Cinematographer, Production Manager, Assistant Cinematographer, Special Effects Photographer, Film Animator.

See also: Electrical Engineering, Mechanical Engineering, and Mining Engineering.
Civil Engineering is a profession in which principles of the mathematical, physical, and engineering sciences, combined with experience and practice, are used to develop safe and economical designs for buildings, bridges, dams and hydraulic systems, environmental engineering systems, and other beneficial projects. Civil Engineering is one of the oldest branches of the engineering field and is often called a "people-serving" profession.

The four-year undergraduate program leading to the Bachelor of Science degree in Civil Engineering has five areas of specialization: structural engineering, hydraulic engineering, environmental engineering, geotechnical engineering, and applied mechanics. Additional technical electives enable students to concentrate on specialty areas that support their career goals.

First Year		Fall	Spring
ENGR 102	Engineering Graphics	2	-
GEB	Social Sciences (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	3	3
GED 101	English Composition ^{1,2}	3	-
GED 102	English Composition II ^{1,2}	-	3
GEE	Human Health & Well Being (select) ¹	-	2
CHEM 222a,c	Intro. to Chemical Principles and Lab ³	4	3
MATH 150, 250	Calculus I & II ³	4	4
		16	18
Second Year		Fall	Spring
ENGR 222	Computational Methods for Engineers	2	-
ENGR 260a,b	Mechanics of Rigid Bodies (Statics&Dynamics)	2	3
GEA 115	Introductory Biology ^{1,2,4}	3	-
GEB	Social Studies (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	-	3
GED 153	Public Speaking ^{1,2}	3	-
MATH 251, 305	Calculus III and Differential Equations I	3	3
PHYS 205a,b	University Physics		
PHYS 255a,b	and Lab ³	4	4
		17	16

¹ See General Education for the Transfer Student. Transfer students without a baccalaureate-oriented associate degree will be required to take some specific general education courses. It is recommended that such students contact the College of Engineering and Technology Advisement Office for information on approved general education courses.

² Due to accreditation standards, students transferring with a baccalaureate-oriented associate degree will need 16 sem. hours of Social Sciences and Humanities; eight or nine sem. hours of oral and written communications, and 18 sem. hours of basic science before graduation from SIUC. A 300 level Social Science or Humanities course must be taken at SIUC or at another senior level institution. This 300 level course must build on a discipline already completed. Because of this accreditation requirement, in most cases, a maximum of 13 sem. hours of Social Sciences and Humanities from a community college will be counted toward this 16 hour requirement.

³ Substitutes for General Education requirements.

⁴ This course is not required for students transferring with a baccalaureate-oriented associate degree and 18 sem. hours of Chemistry and Physics.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Engineering used in determining the major grade point averages are courses with the prefix ENGR, CE, EE, EM, ME, and MNGE. This is part of the college's Retention Policy.

Transfer students from community colleges or other institutions should have strong backgrounds in the physical sciences, mathematics, social sciences, and humanities. Students are encouraged to complete specific freshman and sophomore course requirements which include six sem. hours of English Composition; three sem. hours of Speech, eight sem. hours of University Physics, seven sem. hours of Chemistry; 11-14 sem. hours of Math, including Calculus; two sem. hours of Analytical Mechanics (Statics); and three sem. hours of Graphics or Introduction to Engineering. Calculus is a prerequisite for most junior-level courses.

Career and Employment Opportunities: Civil engineers are in demand in many fields. The number and variety of employment opportunities allow graduates considerable flexibility in job selection. Positions exist in construction companies, consulting engineering and architectural firms, transportation, public utility and manufacturing companies, aerospace companies, and governmental agencies on every level.

Programs of study in foreign languages leading to the Bachelor of Arts degree in the College of Liberal Arts (with or without teacher certification) are offered in Classics, Foreign Language and International Trade, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree in the College of Liberal Arts for students who have a professional or occupational interest in Asia.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) has the option to earn proficiency credit through taking a proficiency exam in Latin at the Testing Center or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. The Foreign Language Department will honor CLEP exams in French, German and Spanish. As an alternative or for additional credit, students who can enter at the 200 level or above are encouraged to take a validating course. Since credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

First Year		Fall	Spring
GEA	Science (select)	-	3
GEB	Social Science (select)	3	3
GEC	Humanities (select)	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (Activity)	2	-
CLAS 133a,b or	Elementary Latin ^{1,2} or	3-4	3-4
CLAS 130a,b or	Elementary Classical Greek ^{1,2} or	4	4
CLAS 202a,b or	Intermediate Latin ^{1,2} or		
CLAS 201a,b	Intermediate Greek ^{1,2}		
		14-15	15-16
Second Year		Fall	Spring
GEA	Science (select)	3	3
GEB	Social Science (select)	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
CLAS	Classics Electives ⁴	3-4	3-4
CLAS	Latin or Greek Language	3	3
MATH or CS	Mathematics or Computer Science ³	3	-
		15-16	14-15

¹Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students. However, four of these hours may be used for GEC credit.

²Required by the major--two years of one language or one year of each.

³One of these courses may be used to partially fulfill the Liberal Arts requirement. Students with more than one year of high school Latin or Greek should carry at least one substantial course in the Classics major each semester.

⁴Required by the major (see Undergraduate Catalog).

Classics As A Major

A major in Classics consists of 36 semester hours in courses on all levels. *Electives may be chosen from specified courses in the departments of Anthropology, Art, History, Philosophy, Political Science, and Religious Studies. A minor in Classics consists of 15 semester hours.

NOTES: Foreign Language majors must satisfy College of Liberal Arts requirements. Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

*Students are advised not to enroll for both Elementary Greek and Elementary Latin the same semester.

Representative First Job Titles: Teacher, Translator, Simultaneous Interpreter, Consecutive Interpreter, Visitors' Guide, Communications Specialist, Public Information Officer, Escort Interpreter, Conference Interpreter, International Relations Officer, Sales Representative, Writer, Editor, Publications Staff, Speech Writer, Archaeological Worker, Archival Worker, Museum Curator, Cultural Studies Specialist, Researcher, Exhibit Preparator.

CLOTHING AND TEXTILES
(Apparel Design)
Department of Vocational Education Studies
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Mrs. Sue Ridley
Coordinator
Telephone - 618-453-3321
Quigley Hall, Room 311

The apparel design program in the Division of Comprehensive Planning and Design gives students training for design occupations either in an industrial setting or in a custom shop. Many careers in design-related businesses are also available to the graduates of this program. The variety of courses offered is outstanding which provides the student with opportunity to develop individual skills and competencies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101, 106 or 110	Science (select)	-	3
GEA 115, 117 or 118	Biological Science	3	-
GEB	Electives	3	-
GEB 211	Contemporary Economics	-	3
GEC	Humanities (select philosophy or literature)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
ART 100a ¹	Two Dimensional Design	-	3
VES 336	Survey of Clothing	3	-
VES 338a	Beginning Clothing Construction	3	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	-
GEB 202	Introduction to Psychology	3	-
GEC	Elective (select)	3	-
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select activity)	-	2
ART 100	Introduction to Drawing I	3	-
ART 206	Beginning Fibers	-	3
VES 337	Clothing for Consumers	3	-
VES 345	Textiles	-	4
		<u>15</u>	<u>15</u>

¹ART 100a will substitute for GEC 101. Apparel design students must take ART 100a.

Third and Fourth Years

If not completed at the junior college level, VES 338a (Beginning Clothing Construction) must be taken the first semester the transfer student is at SIUC. Other courses taken during the last two years will include the professional apparel design courses within the department and professional electives.

This specialization is intended for the student interested in professional preparation in apparel design or allied design positions in either industrial or commercial fashion businesses. The courses available to the student cover textile information, fashion design, and skills required for developing original designs into patterns and completed garments. Courses in clothing and textiles are complemented by ones in art, business, and other areas in order to provide a suitable background for various career opportunities.

Representative First Job Titles: Family Expenditures Education Specialist, Consumer Market Analyst, Consumer Relations Officer, Apparel Designer, Fashion Coordinator, Patterns Designer, Tailor, Clothing Economist, Fashion Merchandising Expert, Advertising Assistant, Retail Store Manager, Cost Analyst, Customer Services Specialist, Sales Agent, Purchasing Manager, Marketing Specialist, Textile Selector, Textile Laboratory Assistant, Customer Relations Specialist, Pattern Maker, Industrial Relations Specialist, Price Economist, Manufacturer's Representative.

CLOTHING AND TEXTILES¹

(Retailing)
Department of Vocational Education Studies
College of Education
(Bachelor of Science)

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Wham Building, Room 135

Mrs. Sue Ridley
Coordinator
Telephone - 618-453-3321
Quigley Hall, Room 311

The retailing program at Southern Illinois University is offered through the Department of Vocational Education Studies. Professional and free elective hours make it possible for the student to choose the courses of greatest personal value.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101, 106 or 110	Science (select)	-	3
GEA 115, 117 or 118	Biological Science	3	-
GEB	Social Sciences (electives)	3	3
GEB 202	Introduction to Psychology	-	3
GEC	Humanities (select philosophy or literature) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
VES 336	Survey of Clothing	3	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	-
GEB 211	Contemporary Economics	3	-
GEC	Elective (select)	3	-
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication and Public Speaking	-	3
GEE	Human Health and Well Being (select activity)	-	2
ACCT 210 or 220	Principles of Accounting	-	3
VES 337	Clothing for Consumers	3	-
VES 345	Textiles	-	4
VES 347	Fashion Motivation	3	-
		<u>15</u>	<u>15</u>

¹Art 100a will substitute for GEC 101. Retailing students must take Art 100a.

Third and Fourth Years

Courses during the last two years will include additional work in marketing, management and related business courses; core, electives and professional courses within the Clothing and Textiles Department; and elective hours. The retailing major should have some experience in a sales position before the junior year.

This specialization prepares students for a profession in retail stores, either as buyers or department managers. Other related retailing positions which are also available to the student include personnel, training, inventory control, and security.

Representative First Job Titles: Family Expenditures Education Specialist, Consumer Market Analyst, Consumer Relations Officer, Apparel Designer, Fashion Coordinator, Patterns Designer, Tailor, Clothing Economist, Fashion Merchandising Expert, Advertising Assistant, Retail Store Manager, Cost Analyst, Customer Services Specialist, Sales Agent, Purchasing Manager, Marketing Specialist, Textile Selector, Textile Laboratory Assistant, Customer Relations Specialist, Pattern Maker, Industrial Relations Specialist, Price Economist, Manufacturer's Representative.

COMMERCIAL GRAPHICS--DESIGN
College of Technical Careers
(Associate in Applied Science)

John L. Yack
Program Coordinator
Telephone - 618-453-8863
Blue Barracks

The advertising business is a growing field, presenting tremendous employment opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, title cards, finished lettering, fashion illustrations, airbrush and photo retouching and many others.

Students in this program develop multiple art skills so that they may qualify for initial positions in many different areas of advertising art and design. Each individual has a base upon which to build a career according to his or her own special interests and talents. Students are admitted to 300 level courses based on the quality of work they do in the first two years.

Each graduating CGD student is required to attain a 90% or better achievement on a vocabulary proficiency test, and to have compiled a professionally acceptable portfolio of work.

The student should expect to spend approximately \$1,500 - \$2,000 for supplies, equipment, and materials over a two-year period.

An advisory committee whose members are active in the advertising and graphic design professions serves the program.

All faculty are professionals attracted from agencies or studios, hence are uniquely adept in the practical aspects of design.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	3	-
GED 153	Public Speaking	-	3
CG 109	Basic Photography for Graphic Design	-	2
CG 110	Survey of Graphic Design	3	-
CG 120	Artistic Anatomy and Color Perception I	4	-
CG 122	Technical Drawing for Graphic Design	4	-
CG 124	Graphic Layout and Typography I	4	-
CG 130	Artistic Anatomy and Color Perception II	-	4
CG 132	Airbrush and Photo Retouching	-	4
CG 133	Copyfitting	-	1
CG 134	Graphic Layout and Typography II	-	4
*CG 150	Computer Applications for Commercial Graphics-Design	-	2
		18	20

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	200 Level Elective (Psychology recommended)	3	-
CG 210	Advertising Graphics	6	-
CG 224	Publication Graphics	6	-
CG 222	Graphic Design and Advertising Illustration	-	6
CG 215	Dimensional Design	-	6
CG 230	Job Orientation Seminar	-	1
CTC 102	Technical Writing (special course for majors)	2	-
		17	13

<u>Third Year</u>	<u>Advanced Technical Studies Electives</u> (baccalaureate degree)	
CG 310	Advanced Illustration for CG-D ¹	6
CG 312	Advanced Airbrush/Tech. Illus. for CG-D ¹	6
CG 315	Advanced Dimensional Design for CG-D ¹	3
CG 350	Advanced Computer Applications for CG-D ¹	3

*Elective

¹Departmental offerings may vary each semester.

A minimum of 69 hours is required for this program.

Applicants are admitted to the University with a Pre-Commercial Graphics Design designation for the fall semester, and are then contacted by the program. At this point, they must submit a portfolio of required examples in addition to taking a workshop. Those students who show that they are the best prepared will be invited to enroll in the program. Counselors or art teachers may request a video tape (VHS 28:30) presentation or demonstration by a faculty member, time permitting. There is no charge for this service.

Representative First Job Titles: Graphic Designer, Layout Artist, Sketch Artist, Paste-up Artist, Package Designer, Freelance Artist, Illustrator, Mechanical Artist, Publication Designer, Airbrush Illustrator, Photo-retoucher, Assistant to Art Director.

COMMUNICATION DISORDERS AND SCIENCES

(Clinical Specialization)

(Public School Specialization)

College of Communications and Fine Arts

(Bachelor of Science)

Gene J. Brutton, Chairperson

Telephone - 618-453-4301

Communications Building, Room 1003

The program in Communication Disorders and Sciences has as its objective the training of qualified personnel to work with children and adults whose speech, language or hearing is impaired. The pre-professional undergraduate curriculum is broad in scope and presents the student with the necessary background for the professional program offered at the Master's level. Both state and national certification require the Master of Science degree.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology	3	-
GEB 108	The Sociological Perspective	3	-
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GEA, B, or C	Select ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or	Interpersonal Communication or		
GED 153	Public Speaking	-	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	(select) ¹	3	-
GEB 262	Marriage and Family	3	-
GEC	English Elective in Humanities	3	-
GEE Activity	(select) ¹	2	-
GEE 201	Healthful Living	2	-
PSYC 301	Child Psychology	-	3
CDS 105	Introduction to Communication Disorders ²	-	3
CDS 200	Phonetics ²	3	-
CDS 203	Introduction to Speech-Language		
	and Hearing Science ²	-	3
	Departmental Electives ²	-	7
		<u>16</u>	<u>16</u>

¹ Refer to the section General Education for the Transfer Student.

² A student may take these courses either fall or spring as offered by the department.

Preparation for teacher certification should include the following General Education courses: GEB 202, Introduction to Psychology; GEE 201 (Healthful Living); GED 101; GED 102; GED 301; GED 153; GEE 100-114 (2 hours); and one additional English course from GEC, GED or English department.

Communication Disorders and Sciences As A Major

In the departmental major of 37 semester hours, the third and fourth years as an undergraduate presents the student with pre-professional training that relates to normal and disordered aspects of speech, language, and hearing. Graduate work is primarily devoted to training in differential diagnosis, assessment and the management of communication disorders in clinical or school settings.

Extensive clinical experience (minimum of 300 clock hours) is obtained through work at the University's Clinical Center, Carbondale Memorial Hospital, the Marion Veterans Administration Hospital, Head Start, Tri-County Special Education Cooperative, Jackson County Nursing Home, Center for Comprehensive Services, public schools and other area hospitals or agencies.

Students will be encouraged to plan programs of study to meet academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association.

Representative First Job Titles: (All require certification/Master of Science degree): Speech and Language Clinician, Speech and Language Pathologist, Speech and Hearing Therapist, Audiologist, Speech and Hearing Consultant, Hearing Aid Specialist.

The growth of information processing in both the expansion of installations and the complexity of hardware and software has increased the need for competent information processing personnel. The curriculum in computer information processing at the College of Technical Careers prepares students for employment as business computer programmers and systems analysts. Skills which the graduate obtains include competency in programming languages (such as COBOL, RPG and Assembler) and associated areas (such as accounting and systems design).

Students enrolled in the program have access to a modern large-scale IBM computer with batch and interactive facilities and an IBM PC Lab. The hardware and software configurations are representative of large computer installations in industry. The data center is available for student use approximately 100 hours per week.

The associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community colleges or other acceptable extra-institutional educational experiences. Students beginning the program in the spring semester may require five semesters to complete the degree. Students should plan to spend small amounts for special laboratory materials.

Students completing this program may seek employment as entry level business applications programmers and systems analysts or may continue their studies by enrolling in a bachelor's degree program, such as the Advanced Technical Studies major in the College of Technical Careers.

An advisory committee of professional people and educators meet annually on campus to review the program to assure its continuing responsiveness to the current needs of today's industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
CIP 101	Introduction to Information Processing	3	-
CIP 102	Introduction to Programming	3	-
CIP 103	Information Processing Mathematics	3	-
CIP 111	COBOL Programming I	-	3
CIP 131	Information Processing Applications	-	3
CTC 120	Fiscal Aspects of Technical Careers I	3	-
CTC 220	Fiscal Aspects of Technical Careers II	-	3
		<u>15</u>	<u>15</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CIP 121	RPG Programming	3	-
CIP 212	COBOL Programming II	3	-
CIP 213	Information Processing Project	-	6
CIP 222	Assembler Language Programming	-	4
CIP 232	Systems Design and Development	3	-
CIP 233	Job Control Language and Utilities	4	-
CIP 281	Career Development	-	2
Elective	Social Elective	3	-
Elective	Technical Elective	3	3
		<u>19</u>	<u>15</u>

Computer Information Processing As A Major

A minimum of 60 hours of credit must be completed for graduation. A minimum grade of 'C' is required in all courses with a CIP prefix and GE-D 101, 102 and 152, 153.

Students may begin the program in the spring semester, but five semesters may be required for completion.

Computer Information Processing As A Minor

Fifteen hours of work in computer information processing courses are required for a minor. A list of required courses is available from the program coordinator.

Representative First Job Titles: Computer Programming, Systems Analyst.

The Department of Computer Science offers two degree programs to undergraduate students. The curriculum specified for the Bachelor of Science degree is more flexible, broadly based, and provides preparation for a wide range of careers as well as for graduate training in computer science. The Bachelor of Arts degree program is oriented toward preparing students for careers across a wide spectrum of fields in which computers play a significant role.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ^{1,2}	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	1	-
CS 202	Introduction to Computer Programming ³	-	3
CS 215	Discrete Structures I ³	-	3
MATH 111	Pre-Calculus ⁴	5	-
MATH 150	Calculus I ³	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>			
GEB	Social Science (select) ¹	-	3
	Lab Science ^{3,5,6}	3-4	3-4
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	2	-
CS 220	Advanced Programming Techniques ³	3	-
CS 302	Assembly Language Programming ³	-	3
ENGL 290	Intermediate Expository Writing ³	3	-
MATH 221	Introduction to Linear Algebra ³	-	3
MATH 250	Calculus II ³	4	-
		<u>15-16</u>	<u>15-16</u>

¹ To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

² GEC 208 Elementary Logic is recommended.

³ Required by the major.

⁴ Will substitute for general education mathematics.

⁵ Consult with the department's undergraduate program director for the approved list of lab science courses.

⁶ These courses may substitute for general education requirements.

Computer Science Courses: CS 202 is a first course in programming using the language PASCAL. CS 220 is a data structures course which also uses PASCAL. CS 302 is an intensive course in assembly language programming. CS 215, a discrete structures course, is a pre-requisite to 220 and 302.

Mathematics Courses: The basic calculus requirement for a B.S. degree in Computer Science is eight hours as defined by Math 150 and 250. Math 251, the third calculus course, is not required, but it can be taken as an elective. Note that a student with insufficient background must take a pre-calculus course such as Math 111 prior to taking Math 150 and CS 215.

Science Courses: The department requires a two-semester sequence of laboratory science or engineering courses chosen from an approved list which is maintained by the department's undergraduate program director. Two additional science or engineering courses are required. Some of these courses may substitute for general education requirements.

Computer Science As A Major: The department offers courses covering the major areas of computer science. These courses constitute the basis for an undergraduate curriculum which prepares students for professional and technical careers in government and industry or for graduate work leading to advanced degrees. The curriculum includes such topics as programming, computer hardware and software systems, simulation, graphics, artificial intelligence, database systems, and computer applications to business and science. Students will be advised in computer science courses by the department so that they may profitably pursue their academic and professional interests.

Representative First Job Titles: Data Processing Programmer, Scientific Programmer, Systems Programmer, Programmer/Analyst, Systems Analyst, Software Engineer, Database Specialist, Data Communications Specialist, Artificial Intelligence Developer, Graphic Applications Programmer, Digital/Electronics Designer, Research Associate, Consultant.

The Department of Computer Science also offers a second undergraduate program which leads to a Bachelor of Arts degree. The Bachelor of Arts program is oriented toward preparing students for careers across a wide spectrum of fields in which computers play a significant role. The program achieves this by requiring each student to develop a secondary concentration in a field which matches the individual's career goals.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ^{1,2}	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	1	-
CS 202	Introduction to Computer Programming ³	-	3
CS 215	Discrete Structures I ³	-	3
MATH 108	College Algebra	3	-
MATH 140	Short Course in Calculus ³	-	4
		16	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
CS 220	Advanced Programming Techniques ³	3	-
CS 302	Assembly Language Programming ³	-	3
ENGL 290	Intermediate Expository Writing	3	-
FL	Foreign Language ⁴	4	4
MATH 282 or 283	Introduction to Statistics ³	3	-
		16	13

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²GEC 208 Elementary Logic is recommended.

³Required by the major.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

Computer Science Courses: CS 202 is a first course in programming using the language PASCAL. CS 220 is a data structures course which also uses PASCAL. CS 302 is an intensive course in assembly language programming. CS 215, a discrete structures course, is a pre-requisite to 220 and 302.

Mathematics Courses: The calculus requirement for a Bachelor of Arts in Computer Science is four hours as defined by Math 140. Note that a student with insufficient background must take a college algebra course such as Math 108 prior to taking CS 215.

Computer Science As A Major: The department offers courses covering the major areas of computer science. These courses constitute the basis for an undergraduate curriculum which prepares students for professional and technical careers in government and industry or for graduate work leading to advanced degrees. The curriculum includes such topics as programming, computer hardware and software systems, simulation, graphics, artificial intelligence, database systems, and computer applications to business and science. Students will be advised in computer science courses by the department so that they may profitably pursue their academic and professional interests.

Representative First Job Titles: Business Applications Programmer, Programmer/Analyst, Systems Analyst, Software Engineer, Database Specialist, Consultant.

CONSTRUCTION TECHNOLOGY
College of Technical Careers
(Associate of Applied Science)

James Naas
Program Coordinator
Telephone - 618-985-4110
Carterville Campus

These courses provide training which will enable the individual to qualify for positions of greater opportunity and responsibility after relatively short periods of apprenticeship or trade experience in the fields of construction supervision, cost estimating, management, and building construction.

Field trips to nearby cities to study and observe various types of construction are made each school year. Allowance should be made for the purchase of small amounts of equipment and supplies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	-	3
CST 100	Construction Orientation	1	-
CST 102	Construction Drawing and Blueprint Reading	4	-
CST 103	Concrete Technology	-	4
CST 104	Surveying in Construction	4	-
CST 110	Residential Framing and Exterior Finish	5	-
CST 203	Construction Materials	-	3
CST 208	Construction Estimating	-	3
CTC 105a,b	Technical Mathematics	4	-
CTC 107a,b	Applied Physics	-	4
		<u>18</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CTC 102 or 153	Technical Report Writing or Public Speaking	-	2 (3)
CST 105	Construction Codes, Specifications, Inspection and Safety	2	-
CST 111	Remodeling and Renovation	-	3
CST 125	Structural Mechanics	3	-
CST 207	Construction Management	-	3
CST 209	Mechanical Systems	4	-
CST 210	Remodeling and Renovation	-	3
CST 211	Commercial Construction	3	-
CST 225	Structural Mechanics II	-	3
CTC 120	Fiscal Aspects of Technical Careers	3	-
Elective	Social Studies or Humanities	-	3
		<u>15</u>	<u>17 (18)</u>

The following advanced construction courses are available beyond the AAS requirement during the summer term:

CST 303	Advanced Concrete Technology
CST 307	Computer Applications in Construction
CST 325	Quality Assurance in Construction

Construction Technology As A Major

Residential and light commercial building construction offers a multitude of opportunities in the areas of management and supervision.

The student will learn basic energy efficient construction principles including active and passive solar applications, surveying, drafting and properties of construction materials. He or she will be able to develop construction details and working drawings, and to make construction cost estimates, including labor, materials, and schedules. The student will learn code requirements and specifications affecting mechanical equipment such as plumbing, heating, air conditioning, and illumination. He or she will acquire the knowledge necessary for basic management and business positions through the study of business fiscal management, technical writing, physical sciences, and mathematics.

The student in this program will have the benefit of a well-equipped wood utilization laboratory.

A minimum of 67 hours credit is required for the associate degree.

Representative First Job Titles: Carpenter, Construction Engineering Aide, Building Materials Salesperson, Estimator, Construction Foreman, Assistant to Contract Supervisor, Inspector, Assistant Project Manager.

CONSUMER ECONOMICS AND FAMILY MANAGEMENT

(Consumer Services in Business Option)
College of Technical Careers
(Bachelor of Science).

Dr. Fred R. Isberner, Coord.
Telephone - 618-453-8898
Technical Careers Building
Room 125

This specialization prepares students for professional opportunities in consumer affairs in industry and government. Special emphasis is placed on the role of the consumer in the market place and the consumer's relationship to private enterprise and government agencies. A key focus of the program is the application of concepts and the critical analysis of problems and issues affecting the consumer's interests and choices.

The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or through proficiency examinations. Students who have completed an AAS degree may be eligible for the Capstone option. This option reduces the hours required in general education from 46 to 30. Students may also receive credit for previous educational, military and occupational experience. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available upon approval by the student's faculty advisor.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
*GEB 108	Sociological Perspective ¹	3	-
GEC	Humanities (select)	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 153	Public Speaking ¹	-	3
GED 107	Intermediate Algebra	3	-
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
Elective		-	3
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	-	3
*GEB 202	Introduction to Psychology ¹	3	-
*GEB 211	Contemporary Economics ¹	-	3
GEC	Humanities (select)	3	3
GEE	Human Health and Well Being (Activity)	2	-
GEA, B, C	(select)	3	-
Electives	(accounting recommended)	5	6
		<u>16</u>	<u>15</u>

¹ Required General Education courses.

Third and Fourth Years

The last two years of a student's program concentrate on specialized objectives and departmental requirements. These include the following areas: consumer resources and problems, housing concerns, consumers in the market, family financial management, business law, and public relations. In the senior year, students participate in an internship and take a course preparing them to identify consumer affairs positions.

Graduates may work in a variety of industries (insurance, banking, airlines, utility companies, food retailers, food processors) and governmental agencies (local consumer affairs offices, FTC, FDA).

Representative First Job Titles: Consumer Services Specialist, Consumer Relations or Customer Relations Officer, Consumer Affairs or Information Specialist, Consumer Educator, Community Liaison Specialist.

CONSUMER ECONOMICS AND FAMILY MANAGEMENT
(Family Service Consultant Option)
College of Technical Careers
(Bachelor of Science)

Dr. Fred R. Isberner, Coord.
Telephone - 618-453-8898
Technical Careers Building
Room 126

This specialization is designed to give students a knowledge and understanding of the family's management and allocation of resources. This option prepares students for employment in public and private welfare agencies, cooperative extensions, local government and other programs. The low-income family is of particular interest in this specialization. Elective courses should reflect the student's personal employment goals. The program is tailored to meet the theoretical as well as applied concepts in preparing students to serve individuals and families of various ages, physical abilities, and income levels.

The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or through proficiency examinations. Students who have completed an AAS degree may be eligible for the Capstone option. This option reduces the hours required in general education from 46 to 30. Students may also receive credit for previous educational, military and occupational experience. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available upon approval by the student's faculty advisor.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
GEB 108	Sociological Perspective ¹	3	-
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ¹	-	3
GED 153	Public Speaking ¹	-	3
GED 107	Intermediate Algebra	3	-
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
Electives		-	3
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	-	3
GEB 202	Introduction to Psychology ¹	3	-
GEB 211	Contemporary Economics ¹	-	3
GEC	Humanities (select)	3	3
GEE	Human Health and Well Being (Activity)	1	1
GEA, B, C	(select)	-	3
F&N 100	Fundamentals of Nutrition	3	-
Electives		6	3
		<u>16</u>	<u>16</u>

¹Required General Education courses.

Third and Fourth Years

Education during the third and fourth years emphasizes departmental requirements and advanced courses in Consumer Economics and Family Management. They include the following areas: consumer resources and problems, housing concerns, family financial management, management for low-income families, consumer health, marriage and family living, and family counseling. In the senior year, students participate in an internship experience.

Representative First Job Titles: Money Manager, Hospital Patient Representative, Social Services Agency Worker, Senior Citizens Agency Counselor, Budget or Credit Counselor, Consumer and Family Finance Specialist.

DENTAL HYGIENE
College of Technical Careers
(Associate of Applied Science)

Catherine Jensen
 Program Coordinator
 Telephone - 618-453-7213
 Technical Careers Building
 Room 18D

The dental hygienist is an important member of the dental health team, and is the only one other than the dentist who is permitted by law to work directly in the mouth of the patient. Both men and women enjoy the profession. Many dental hygiene graduates work in private practice. In this setting, the dental hygienist must be licensed and work under the supervision of a licensed dentist. The hygienist's area of responsibility includes oral prophylaxis (scaling and polishing of the teeth), chairside assisting, x-ray examinations, laboratory techniques, office and administration procedures, dental health education, and other areas of preventive dentistry. Alternative employment opportunities include teaching, public health dentistry, civilian employment at military installations, sales and marketing for dental companies, management positions in dental clinics or related health care facilities, and consulting for long term health care facilities. Future changes in statutes may open possibilities for alternatives to private practice. Several states currently allow independent contracting in private practice.

This program is fully accredited by the Council on Dental Education of the American Dental Association. Available facilities restrict first-year enrollment to 50 students. Interested persons should contact New Student Admission Services and the dental hygiene admissions clerk. Special application materials are included in requirements for admission to the program.

All application materials to the University and to the program for Fall 1990 should be on file by January, 1990. Individual applications will be reviewed as they become complete. Applications are reviewed until the class is filled. The earlier a candidate has submitted all necessary information, the greater the opportunity for acceptance.

The dental hygiene student has expenses of about \$2600 in addition to University tuition and fees. This covers the cost of instruments, uniforms, liability insurance, and a basic professional library; in addition they spend time at the School of Dental Medicine in Alton, Illinois, for an internship experience.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 106	Chemistry for Non-Science Majors	3	-
GED 101	English Composition	-	3
GED 152	Interpersonal Communication	3	-
AHC 141	Anatomy and Physiology	4	-
MICRO 201	Elementary Microbiology	-	4
DH 126	Oral Anatomy and Tooth Morphology	3	-
DH 133	Histology and Embryology	2	-
DH 137	Pre-Clinical Dental Hygiene	5	-
DH 138	Pathology	-	2
DH 147	Preventive Dentistry	-	1
DH 208	Clinical Dental Hygiene	-	4
DH 211a	Seminar	-	1
DH 218a	Dental Radiology	-	2
DH 226	Anatomy of the Head and Neck	-	2
		<u>20</u>	<u>19</u>
<u>Summer Session (8 weeks)</u>			
DH 209	Dental Hygiene Clinic	3	
DH 211b	Seminar	1	
DH 217	Dental Nutrition	2	
DH 218b	Dental Radiology	2	
		<u>8</u>	
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	-	3
DH 201	Dental Materials	4	-
DH 238	Oral Pathology	2	-
DH 240	Pharmacology	2	-
DH 241	Periodontology	2	-
DH 248 and 348	Dental Public Health and Community Dentistry and Practicum	2	2
DH 310a,b	Clinical CH and Radiology	6	6
DH 311a,b	Senior Seminar	1	1
DH 315	Ethics, Jurisprudence and Office Management	-	2
GEB 108	The Sociological Perspective	-	3
		<u>19</u>	<u>17</u>

A minimum of 83 hours is required for this program.

Representative First Job Titles: Dental Hygienist, Researcher, Health Administrator, Registered Dental Hygienist, Dental Hygiene Educator, Public Health Dental Hygienist.

Dental Technology is concerned with the construction of replacements for natural teeth which have been lost by disease or accident. A technologist trained in this art is called a Dental Technician.

The relationship of the dental technician to the dentist is similar to that of the pharmacist to the physician or the optician to the eye specialist. Important members of the dental health team, students find their skills and knowledge are invaluable. They work from a prescription from the dentist and are employed in the dental office or in dental laboratories varying in size from one to as many as 100 people.

The Dental Technology program includes extensive study covering all phases of dental technology and leads to an associate in applied science degree. The program was designed so that students would receive not only technical training but also general education courses to prepare them for a socially complex world. It is for this reason that approximately one-third of the total curriculum consists of general education courses.

The technical curriculum covers a complete study of dental morphology, fabrication of dental restorations and appliances in all the prosthetic phases of dentistry, dental materials, dental laboratory management and other related subjects. Students who enjoy working with their hands will find dental technology to be an especially rewarding career.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101	Conceptual Insights, Modern Communication Systems	-	3
GEA 106	Chemistry for Non-Science Majors	3	-
GED 101	English Composition	3	-
DT 102*	Tooth Anatomy	4.5	-
DT 103a*	Complete Dentures I	4.5	-
DT 103b*	Complete Dentures II	-	4.5
DT 104a*	Removable Partial Dentures I	4.5	-
DT 104b*	Removable Partial Dentures II	-	4.5
DT 113a	Science of Dental Technology	1	-
DT 128	Oral Anatomy	-	1
DT 143	Orientation to Dental Technology	1	-
DT 110*	Dental Occlusion	-	4.5
		<u>21.5</u>	<u>17.5</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CIP 229	Computing for Business Administration	-	3
GED 152	Interpersonal Communication	-	3
DT 113b	Science of Dental Materials	2	-
DT 202*	Dental Orthodontics & Pedodontics	4.5	-
DT 204a*	Crown and Bridge I	4.5	-
DT 204b*	Crown and Bridge II	4.5	-
DT 205	Dental Laboratory Management	1	-
DT 206a*	Dental Ceramics I	-	4.5
DT 206b*	Dental Ceramics II	-	4.5
DT 210*	Applied Prosthodontics	-	4.5
CTC 120	Fiscal Aspects of Technical Careers I	3	-
		<u>19.5</u>	<u>19.5</u>

*Five-week module.

Dental Technology As A Major

This program is the second oldest dental technology program in the country, and is the first of its kind in the state of Illinois to be accredited by the Commission on Dental Accreditation of the American Dental Association. The program has maintained 'full approval' accreditation status since it was founded in the summer of 1956.

The Commission's standards are sufficiently high to ensure that the graduate of such an accredited program has the best education it is possible to give in the time allocated. The faculty is highly qualified for teaching this portion of the dental field, having enjoyed many years of experience in dental education and technology education. This is backed by years of practical experience in the entire field. Graduates are eagerly sought by the owners of the many ethical laboratories throughout the United States and foreign countries.

The student should expect to spend about \$800.00 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over a two-year period.

Representative First Job Titles: Dental Technician, Sales Representative, Technical Representative.

DESIGN
 (Product)
 (Visual Communications)
 School of Art and Design
 College of Communications and Fine Arts
 Bachelor of Arts

L. Brent Kington, Director
 School of Art and Design
 Telephone - 618-453-4315
 Allyn Building, Room 109

Joyce Jolliff, Academic Adviser
 Telephone - 618-453-4313
 Allyn Building, Room 103

The faculty and students of the design program are a part of the School of Art and Design.

Design is defined as devising innovative courses of action to change existing situations into preferred situations. This definition translated into the educational purpose of the design program means that our prime responsibility and goal is to develop students with conceptual and design capabilities to cope effectively with multi-faceted design problems.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 110	Earth Science (recommended)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE 107 or 201 or 236	Human Health and Well Being	2	-
ART 100a	2-Dimensional Design	3	-
ART 100b	3-Dimensional Design	-	3
ART 107	Fundamentals of Art	3	-
ART 110	Introduction to Drawing I	3	-
DES 122	Drawing for Communication	-	3
		<u>14</u>	<u>15</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 104 or 108 or 205	The Human Experience: Anthropology		
	The Sociological Perspective		
	Consumer Decision-Making (recommended)	-	3
GEC 205	Innovation for the Contemporary Environment	3	-
GED 153	Public Speaking (recommended)	3	-
GEE	Human Health (activity only)	2	-
	2D/3D Presentation	-	3
ART 207a,b	Introduction to Art History	3	3
ART 302b or ART 302c	Beginning Lithography		
	Beginning Silkscreen	-	3
C&P 425	Studio Workshop (beginning photography)	3	-
DES 213 or DES 222	Basic Materials and Processes or Type as Image	3	-
DES 232 or DES 253	Graphic Reproduction or Human Factors	-	3
		<u>17</u>	<u>15</u>

Third and Fourth Years

If not completed at the junior college level, GEC 205 should be taken the first semester the transfer student is at SIUC. Other courses taken the last two years will include additional design core, professional preparatory and elective courses. Two options are available: product design and visual communication.

Product Design: Prepares a student to enter the job market with a broad range of design skills needed to compete for graphic design jobs in the fields of computer graphics, industrial, automotive, packaging, medical, technical, toy, recreational, display and commercial studio graphics' design.

Visual Communication: Prepares a student to conceptualize and design projects meant specifically to carry a visual and verbal message to the end user, consumer, buyer. This includes designing for publication and environmental graphics, consumer advertising for newspaper, magazine, radio, television, package design, corporate image, advertising campaigns, point-of-sale, point-of-purchase display, outdoor and commercial studio graphics' design.

Representative First Job Titles: Paste-Up, Mechanical Finish Artist, Layout Artist, Designer, Junior Art Director, Retouch Artist/Designer, Comp' Artist, Illustrator, Display Designer, Package Designer, Computer Graphics Designer/Specialist, Typographics Designer and Television Storyboard Artist.

EARLY CHILDHOOD
(Child and Family Services)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-536-2441
Wham Building, Room 327

Within a major in Early Childhood, the curriculum offers a specialization in Child and Family Services. These courses offer basic background leading to positions as nursery school director or teacher in private schools, colleges and universities and day care centers; director or teacher in residential living facilities for exceptional children; child care specialists with social, public health and welfare agencies; home economics extension specialists in child care; and recreational leaders.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
*GEB 108	The Sociological Perspective	-	3
*GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 152	Interpersonal Communication	-	3
GEE	Human Health and Well Being (select)	-	2
GEE 236	Nutritional Ecology	2	-
		<u>14</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	-
GEB	(select)	-	3
GEC	Humanities (select)	3	-
GED 107	Intermediate Algebra	-	3
GEE	P.E. Activity	-	2
GE	Additional coursework from A, B, or C	-	3
C&F 227	Marriage and Family Living	3	-
C&F 237	Child Development	3	-
Elective		3	4
		<u>15</u>	<u>15</u>

*Required General Education courses. See section on General Education for the Transfer Student.

Early Childhood As A Major

No minor required.

Flexibility of program provides for specialization in the areas of direct care of children, teaching, and community development related services.

Graduate degree available.

Faculty have varied interests in child development/family relations, retardation, motivation of the child, sex education, child abuse.

Excellent facilities--Child Development Laboratory with observation booth, and only infant care laboratory in the state.

Representative First Job Titles: Nursery School Director, Day Care Center Director, Child Care Specialist, Home Economics Extension Specialist, Recreational Leader, Residential Life Supervisor, Preschool Director, Child Behavior Education Specialist, Child Welfare Education Specialist, Child Placement Education Specialist, Family Welfare Education Specialist, Cultural Education Specialist, Sales Trainee, Children's Programs Organizer, Child Development Specialist, Minority Groups & Race Relations Education Specialist, Population Education Specialist, Teacher (Pre-School).

EARLY CHILDHOOD
(K-3)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-536-2441
Wham Building, Room 327

Following are the requirements for the Bachelor of Science degree with a concentration in early childhood education which meet the minimum requirements for a standard Elementary School Certificate.

In addition to general University and College of Education requirements, a student must meet all prerequisites to student teaching and should study the section in the Undergraduate Catalog which lists such requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	3	-
GEB 114	American Government	-	3
GEC 100 or MUS 101	Music	-	3
GEC 101	Introduction to Art	3	-
GED 101	English Composition	3	-
GED 102	Enlgish Composition II	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	P.E. Activity	1	1
GEE 201	Healthful Living	-	2
		<u>16</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
GEB 202	Introduction to Psychology	3	-
GEB 301	History of U.S.	-	3
GEC	Literature (select or English required)	3	-
GEC	Course in Non-Western Civilization	-	3
MATH 114	Algebraic and Arithmetic Systems	4 (3)	-
MATH 314	Math for Elementary Teachers	-	3
PE 202	Physical Activity for Children and Youth	3	-
Elective	Area of Concentration ²	-	3
		<u>16 (15)</u>	<u>15</u>

¹ See section on General Education for the Transfer Student.
² Teacher certification requirements include an 18-hour Area of Concentration in math, science, humanities or social studies (9 hours must be upper level).

Early Childhood Education (K-3) As A Major

Students who plan to teach grades K-3 should major in Early Childhood Education.

Students should also refer to the section in this handbook specifying the requirements for entrance into the Teacher Education Program.

Excellent facilities--Child Development Laboratory with observation booth, and only infant care lab in the state.

EARLY CHILDHOOD EDUCATION
(Preschool/Primary)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-536-2441
Wham Building, Room 327

For the last decade educators have become increasingly aware of the importance of providing quality care and guidance for the preschool child. This program has been designed for persons interested in the education of children 0-6 years of age. It is offered jointly by the College of Education and the College of Human Resources. Students following this program will meet state certification requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 202	Introduction to Psychology ³	3	-
GEC	Humanities (Art & Music are required) ^{2,3}	-	3
GED 101	English Composition ³	3	-
GED 102	English Composition II ³	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	P.E. Activity ³	-	2
GEE 201	Healthful Living ³	-	2
MUS 101	Music Fundamentals ³	2	1
Elective		1	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	-	3
GEB 114 or 301	American Government or U.S. History ³	3	-
GEC	Humanities (select) ¹	3	3
GEC	Elective ³	-	3
GEE	Elective	-	3
CI 227	Marriage and Family Living	3	-
CI 237	Early Child Development I	3	-
PSYC 301	Child Psychology	-	3
		<u>15</u>	<u>15</u>

¹ See section on General Education for the Transfer Student.

² Under Humanities, Music 101 is to be substituted for GEC 100. Art may be GEC 101, 204, 205 or Art 100.

³ Teacher certification requirements include GEB 202; GEB 114, 301; MUS 101; GEC 213; an art class; GED 101; GED 102; GEE 201; and GEE activity.

Science selection must include a laboratory course. A non-western or third world culture course is required (GEC 213). Additional general education courses required. Additional study in either math, science, social science or humanities to equal 18 hours (9 hours must be upper division coursework).

Refer to the Undergraduate Catalog for additional information on this program.

Specific General Education courses listed are required for this program.

Faculty have varied interests in Child Development/Family Relations, retardation, motivation of the child, sex education.

Excellent facilities--Child Development Laboratory with observation booth, and only infant care lab in the state.

ECONOMICS

College of Liberal Arts
(Bachelor of Arts)

Dr. Robert J. Ellis
Telephone - 618-453-2713
Faner Building, Room 4121

The Economics major consists of 33 semester hours. Of these, 18 hours are required courses. With 15 hours remaining, a student can choose courses in the following areas: Comparative Systems, Economic Development, Economic History, Economic Theory, Econometrics, Human Resources, International Economics, Money and Banking, Political Economy, Public Finance. The flexibility permitted by the electives available makes possible a program tailored to meet the needs of individual career preparation plans.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107 or MATH 111	Intermediate Algebra or Precalculus	3-5	-
GED	Speech (select) ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
MATH 140 or	Short Course in Calculus (if took GE-D 107) or		
MATH 150	Calculus I ² (if took MATH 111)	-	4
		<u>14-16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select)	-	3
GEC	Humanities (select) ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
*ECON 214, 215	Introduction to Macro and Micro Economics ⁴	3	3
FL	Foreign Language ³	4	4
Elective ⁵		<u>3</u>	<u>3</u>
		<u>15</u>	<u>16</u>

¹To determine what courses may be taken to satisfy the general education requirements, please refer to the section, General Education for the Transfer Student.

²The mathematics requirement for economics majors is Math 140 or 150. This also fulfills a Liberal Arts requirement.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁴Part of Economics major requirement. Economics 214 also satisfies part of GEB requirements.

⁵Elective hours should be used in the following ways: 1) students may explore areas of interest or 2) arrange a program tailored to meet specific career objectives. For example students interested in a career in business or government should consider taking elective courses in accounting and other business subjects and computer science. Those considering graduate study in economics are encouraged to take several courses in mathematics.

Economics As A Major

Students majoring in economics find jobs in various areas of business, including banking and finance, industry, trade, and utilities to name a few. Many economics majors go to work for government agencies at all levels--federal, state, and local. For example, several SIUC graduates with economics majors have been hired by the Illinois Bureau of the Budget and other state agencies. Majoring in economics is also widely considered to be excellent preparation for graduate study in business, law or any of the social sciences. The requirements for a major in economics are very flexible with 26-33 hours of electives.

To Counselors

We recommend that high school students thinking of majoring in economics in college take as much English (composition and literature), mathematics, government, and history as possible. If economics is offered, that, of course, is recommended too. For community college students interested in economics, we recommend principles of macro and micro economics, English, and mathematics in addition to (or part of) general education courses.

Representative First Job Titles: Market Research Analyst, Econometrician, Economic Analyst, Economic Forecaster, Finance Administrator, Budget Analyst, Gov't Economic Enterprises Studies Officer, International Banking Officer, International Trade Economist, Investment Analyst, Loan Administrator, Industrial Economist, Manufacturer's Representative, Production Supervision, Price Economist, Transportation Economist, Labor Economist, Business Planner, Economic Geographer, Legislative Aide, Population Economic Analyst, Right-of-Way Agent, Tax Economist, Urban Economist.

See also: Civil Engineering, Mechanical Engineering, and Mining Engineering.

The Department of Electrical Engineering offers courses in the major areas of electrical and computer engineering. Students who choose the Electrical Engineering major prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations such as governmental laboratories; consumer goods manufacturers; and telecommunications, electric power, computer and microelectronic companies. Flexibility in this major allows students to choose among courses in application and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics and power systems. The Electrical Engineering major is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

First Year		Fall	Spring
ENGR 222	Computational Methods for Engineers	-	2
GEB	Social Sciences (select) ^{1,2}	3	3
GEC	Humanities (select) ^{1,2}	3	3
GED 101	English Composition ^{1,2}	3	-
GED 102	English Composition II ^{1,2}	-	3
CHEM 222a,c	Intro. to Chemical Principles and Lab ³	4	3
MATH 150, 250	Calculus I & II ³	4	4
		17	18
Second Year		Fall	Spring
EE 225	Introduction to Digital Systems	3	-
EE 235	Electric Circuits	-	3
ENGR 260a	Mechanics of Rigid Bodies (Statics)	2	-
GEA 115	Introductory Biology ^{1,2,4}	3	-
GEB	Social Studies (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	-	3
GEE	Human Health and Well Being (select) ¹	-	2
MATH 251, 305	Calculus III and Differential Equations I	3	3
PHYS 205a,b	University Physics		
PHYS 255a,b	and Lab ³	4	4
		15	18

¹ See General Education for the Transfer Student. Transfer students without a baccalaureate-oriented associate degree will be required to take some specific general education courses. It is recommended that such students contact the College of Engineering and Technology Advisement Office for information on approved general education courses.

² Due to accreditation standards, students transferring with a baccalaureate-oriented associate degree will need 16 sem. hours of Social Sciences and Humanities; eight or nine sem. hours of oral and written communications, and 18 sem. hours of basic science before graduation from SIUC. A 300 level Social Science or Humanities course must be taken at SIUC or at another senior level institution. This 300 level course must build on a discipline already completed. Because of this accreditation requirement, in most cases, a maximum of 13 sem. hours of Social Sciences and Humanities from a community college will be counted toward this 16 hour requirement.

³ Substitutes for General Education requirements.

⁴ This course is not required for students transferring with a baccalaureate-oriented associate degree and 18 sem. hours of Chemistry and Physics.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Engineering used in determining the major grade point averages are courses with the prefix ENGR, CE, EE, EM, ME, and MNGE. This is part of the college's Retention Policy.

Transfer students from community colleges or other institutions should have strong backgrounds in the physical sciences, mathematics, social sciences, and humanities. Students are encouraged to complete specific freshman and sophomore course requirements which include six sem. hours of English Composition; three sem. hours of Speech, eight sem. hours of University Physics, seven sem. hours of Chemistry; 11-14 sem. hours of Math, including Calculus; and two sem. hours of Analytical Mechanics (Statics). Calculus is a prerequisite for most junior-level courses.

Representative First Job Titles: Electrical Engineer, Product Development and Design Engineer, Product Application and Test Engineer, Sales, Operations Research Analyst, Patent Engineer, Communications Engineer, Computer Engineer, Power Engineer, Systems Engineer, Electronics Engineer, Software Engineer, Control Engineer, Digital Signal Processing Engineer.

ELECTRONICS MANAGEMENT
College of Technical Careers
(Bachelor of Science)

Dr. James Thiesse, Coordinator
Telephone - 618-453-8898
Technical Careers Building
Room 126

The electronics management major combines advanced technical training with development of supervisory and management skills. Electronics management graduates enter a variety of electronic careers specialties including communications, automotive, avionics, personal computers, and biomedical applications. Beginning freshmen should apply to the appropriate associate degree major and plan to enter the electronics management program upon completion of the associate degree.

The bachelor of science degree in electronics management allows students with an associate in applied science degree to build upon their technical training through a combination of core courses, major requirements, approved major electives and SIUC general education requirements.

The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or through proficiency examinations. Students who have completed an A.A.S. degree may be eligible for the Capstone option. This option reduces the hours required in general education from 46 to 30. Students may also receive credit for previous educational, military and occupational experience. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available upon approval by the student's faculty advisor.

First Year

GEA	Science (select)	3	3
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 107	Intermediate Algebra	-	3
GEE 107 or 201			
or 236	Human Health and Well Being (select)	2	-
Electives or	Technical Specialization	7	5
		<u>18</u>	<u>17</u>

Second Year

GEA	Science (select)	3	-
GEB	Social Science (select)	3	3
GEC	Humanities (select)	-	3
GED 102	English Composition II	-	3
GED 152	Interpersonal Communication or		
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (Activity)	-	2
Electives or	Technical Specialization	9	8
		<u>18</u>	<u>19</u>

*GE Total = 46 hours. See advisor to determine eligibility for Capstone option. See Electronics Technology option for AAS requirements.

Third and Fourth Years

ATS core courses	-- 12 hours required	
ATS 364	Work Center Management	3
ATS 416	Applications of Technical Information	3

Two of the following:

ATS 332	Labor Management Problems	3
ATS 383	Data Interpretation	3
ATS 421	Professional Development	3
		<u>12</u>

Electronics Management Specialization Requirements - 15 hours

ELT 301	Biomedical Instrumentation Lecture*	5
ELT 302	Optical Electronics Lecture	4
ELT 303	Microcomputer Const. & Trblsh. Lecture	5
ELT 304	Communication Systems	4
ELT 305	Microcomputer Repair	4
ELT 311	Biomedical Instrumentation Lab*	6
ELT 312	Optical Electronics Lab	2
ELT 313	Microcomputer Const. & Trblsh. Lab	6
ELT 314	Communication Systems Lab	4
		<u>15</u>

NOTE: At least one set of ELT lecture and lab courses is required. Competency tests will be administered during the first lecture period.

*Biomedical option requires completion of 15-hour internship.

Electronics Management Specialization Electives-9 hours courses must be approved by advisor.

Internship, Independent Study or approved equivalent - 12 hours.

Approved career electives - 26 hours

TOTAL: 120 hours

Representative First Job Titles: Electronics Technician, Service Representative.

Electronics Technology is not only a unique program in its high technical level of student preparation, but also in the fact that SIUC is one of the few state institutions that offers both a two year and four year degree in Electronics Technology. The student may obtain the two year degree and enter the job market or continue in the College of Technical Careers for a four year electronics degree. The program provides instruction for the education of electronics technologists who are capable of taking their place in the industry in a wide range of electronics positions. This program is as practical as well as a theoretical approach to electronics.

Students will gain a thorough understanding of AC-DC and active element circuits so that they can design, construct, test and analyze new types of circuitry. They will learn digital circuits and CAD as well as industrial systems to include Robotics in a theory-laboratory situation where they will develop the ability to solve problems and report test results in data sheets, graphs and technical papers. They will use diagnostic analysis to troubleshoot and repair electronics equipment.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	-	3
GED 153	Public Speaking	-	3
ELT 101	AC-DC Circuit Analysis Theory	5	-
ELT 111	AC-DC Circuit Analysis Lab	6	-
ELT 121	Electronics Devices	3	-
ELT 102	Electronics Circuits Theory	-	5
ELT 112	Electronics Circuits Laboratory	-	6
ELT 224	Computer System Applications	-	3
CTC 105a,b	Technical Mathematics	4	-
		<u>18</u>	<u>20</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
CTC 102	Technical Writing	-	2
CTC 107a,b	Applied Physics	4	-
ELT 201	Telemetry and Industrial Circuits Theory	5	-
ELT 202	Digital Electronics Theory	-	5
ELT 211	Telemetry and Industrial Circuits Lab	6	-
ELT 212	Digital Electronics Laboratory	-	6
ELT 221	Electronics Systems Analysis	3	-
CIP 323	PASCAL Programming OR		
CS 202	Intro. to Computer Programming OR		
CS 212	Intro. to Business Computing	-	3
		<u>18</u>	<u>16</u>

Electronics Technology As A Major

Graduates are employed by major corporations such as: General Electric, Emerson Electric, AT&T Bell Research Laboratories, IBM, General Tire and Rubber Company, Digital Equipment Corporation, Texas Instruments, Rockwell, General Telephone (Automatic Electric), Motorola, McDonnell-Douglas, Zenith and many other major electronics companies. About 60% of these graduates work in indirect support and the remaining indirect support of electronics engineers.

During the first year of the program, most instruction is directed toward basic principles of electricity and electronics. This is followed by digital circuits to include Microprocessors and Computer Aided Design and Industrial Systems which includes Robotics and other principles used in the electronics industrial world. Throughout the four semesters of study, students will have a minimum of ten hours of laboratory experiences (hands on) per week. Each laboratory class requires projects the student will design and construct. Second year students select projects related to personal interest within the framework of the class. While hands on experience is stressed, it by no means implies that theory is underemphasized. Each student receives eight hours per week of electronics theory lectures. Curriculum of both lectures and laboratories are constantly changing based on input from a very active Advisory Committee which is made up of representatives from IBM, AT&T, Texas Instruments, ITC/3M, Elcon Systems, ALCOA, Zenith, Motorola, GE-FANUC, Emerson Electric, and McDonnell-Douglas.

Workbooks and supplies required for laboratory courses cost approximately \$150.00. A minimum of 72 hours of credit must be completed for graduation.

Students who wish to complete a four year degree may do so in the College of Technical Careers. Advanced electronics courses are available in biomedical electronics, optoelectronics, microcomputer construction, communication systems electronics and computer maintenance. While it is possible to enter the four year degree program as a transfer student, it is highly recommended each student enter the associate degree program in electronics at SIUC to ensure all skills are obtained that are expected in the advance electronics courses.

Representative First Job Titles: Electronics Technician, Bench Technician, Repair Analysis Technician, Bio-Medical Technician, Instrument Engineer, Technical Sales Representative, Customer Technician, Quality Control Technician, Field Technician, Field Engineer.

ELEMENTARY EDUCATION (K-9)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-536-2441
Wham Building, Room 327

Following are the requirements for the Bachelor of Science degree with a concentration in elementary education which meet the minimum requirements for a standard Elementary School Certificate.

In addition to general university and College of Education requirements, a student must meet all requirements pertaining to prerequisites to student teaching and should study the section in the Undergraduate Catalog which lists such requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (elective)	-	3
GEC 101	Introduction to Art ¹	3	-
GEC	Humanities (Non-Western Civilization)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	P.E. Activity	2	-
Elective	Area of Concentration ²	-	3
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB 114	Introduction to American Government and Politics	3	-
GEB 202	Introduction to Psychology	3	-
GEB 301	U.S. History	-	3
GEC	Literature (select or English required)	3	-
GEE 201	Healthful Living	-	2
Elective	Area of Concentration ²	-	4 (3)
MATH 114	Algebraic and Arithmetic Systems	3 (4)	-
MATH 314	Math for Elementary Teachers	-	3
MUS 101	Music Fundamentals (or GSC Music)	-	3
		<u>15 (16)</u>	<u>15 (14)</u>

¹ See section on General Education for the Transfer Student.

² Teacher certification requirements include an 18-hour Area of Concentration in math, science, humanities or social studies (9 hours must be upper level).

Elementary Education (K-9) As A Major

Students who plan to teach children from grades K-9 and specifically grades 4-6 should major in Elementary Education.

All students should refer to the section in the handbook specifying the requirements for entrance into the Teacher Education Program.

ENGINEERING TECHNOLOGY
(Civil)
College of Engineering and Technology
(Bachelor of Science)

Dr. Joseph Barbay
Telephone - 618-536-3396
Technology Building, Room D107

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. These include the Civil Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology curricula.

The CET specialization is for students interested in careers with construction companies, state and federal highway departments, architectural/engineering/surveying consulting firms, mining companies, railroads, testing laboratories, and governmental agencies. Graduates may participate in such civil engineering activities as surveying and the design and construction of airports, bridges, highways, dams, power plants, pipelines, mines, water and wastewater treatment plants, residential complexes, railroads and recreational facilities.

First Year		Fall	Spring
GEA 115, 117 or 118	Biological Science	-	3 or 4
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select)	2	-
CHEM 115	Chemistry	3	-
ET 103	Engineering Drawing I	-	3
MATH 111	Pre-Calculus ¹	5	-
MATH 150	Calculus I	-	4
		16	16 or 17

Second Year		Fall	Spring
GEC	Humanities (select)	-	3
GED 153	Public Speaking	3	-
ET 202	Structural Graphics	2	-
ET 260a	Principles of Mechanics, Statics	3	-
ET 390	Cost Estimating	-	3
MATH 250	Calculus II	4	-
PHYS 203a,b &			
PHYS 253a,b	College Physics and Lab ¹	4	4
ENGR 222	Computational Methods	-	2
MGMT 202	Business Communications	-	3
		16	15

¹Substitutes for General Education.

Engineering Technology As A Major with a specialization in Civil Engineering Technology.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering technology used in determining the major grade point averages are courses with the prefix ET. This is part of the college's Retention Policy.

A minor is not required. Foreign language is not required.

For the Bachelor's degree in CET the requirements are: 27 semester hours of mathematics and basic science; 30 semester hours of communications, humanities and social studies; 67 semester hours of required and elective technology courses. A minimum of 30 semester hours in Engineering Technology must be taken in residence at SIUC.

Career and Employment Opportunities in CET

Employment opportunities for graduates with B.S. degrees in Civil Engineering Technology are excellent. Graduates are employed by architectural/engineering/surveying firms, construction firms, state and local highway departments, and mining companies. Graduates are eligible to become licensed as Registered Land Surveyors after gaining appropriate post-graduation experience and passing required state licensing examinations.

ENGINEERING TECHNOLOGY

(Electrical)

College of Engineering and Technology
(Bachelor of Science)

Dr. Joseph Barbay

Telephone - 618-536-3396

Technology Building, Room D107

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. These include the Civil Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology curricula.

The EET program is designed for students interested in careers in electronics, manufacturing, power generation, communication industries, and computer technologies. Students study electrical circuits, logic design, communications, microprocessors, and microcomputers. Other courses prepare them for participation in the planning and installation of power distribution systems and the operation and maintenance of complex electrical systems.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115, 117 or 118	Biological Science	-	3 or 4
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
CHEM 115	Chemistry	3	-
MATH 108	College Algebra ¹	3	-
MATH 109	Trigonometry ¹	-	3
		<u>14</u>	<u>15 or 16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science (select)	-	3
GEC	Humanities (select)	-	3
GEE	Human Health and Well Being (Activity)	-	2
ET 238	Digital Electronics	4	-
ET 245a	Electrical Systems for Industry	4	-
MATH 150	Calculus I	4	-
MATH 250	Calculus II	-	4
PHYS 203a,b & PHYS 253a,b	College Physics and Lab ¹	4	4
		<u>16</u>	<u>16</u>

¹Substitutes for General Education.

Engineering Technology As A Major with a specialization in Electrical Engineering Technology.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Engineering Technology used in determining the major grade point averages are courses with the prefix ET. This is part of the college's Retention Policy.

A minor is not required. Foreign language is not required.

For the Bachelor's degree in EET the requirements are: 28 semester hours of mathematics and basic science; 30 semester hours of communications, humanities and social studies; 67 semester hours of required and elective technology courses; and seven semester hours of specified electives. A minimum of 30 semester hours in Engineering Technology must be taken in residence at SIUC.

Career and Employment Opportunities in EET

Employment opportunities for graduates with B.S. degrees in Electrical Engineering Technology are excellent. Graduates are employed in the communications industry, electronic and electrical industries; by transportation industries and consulting firms; in the power and energy industries, in machinery manufacturing companies, and in many other areas.

ENGINEERING TECHNOLOGY
(Mechanical)
College of Engineering and Technology
(Bachelor of Science)

Dr. Joseph Barbay
Telephone - 618-536-3396
Technology Building, Room D107

Engineering Technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. These include the Civil Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology curricula.

The MET program is designed to prepare graduates for a career in power and manufacturing industries. Graduates are provided with a diverse background in several mechanical technologies, focusing on such areas as fluid power, thermal science, computer-aided drawing, mechanical design technology, and mechanical aspects of manufacturing systems.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115, 117			
or 118	Biological Science	-	3 or 4
GEB	Social Science (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE 107 or 201			
or 236	Human Health and Well Being (select)	2	-
CHEM 115	Chemistry	3	-
ET 103,104	Engineering Drawing I,II	3	3
MATH 111	Pre-Calculus ¹	5	-
MATH 150	Calculus I	-	4
		<u>16</u>	<u>16 or 17</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEC	Humanities (select)	-	3
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being (Activity)	2	-
ENGR 222	Computational Methods	-	2
ET 245a	Electrical Systems for Industry	4	-
ET 260a,b	Principles of Mechanics (Statics&Dynamics)	3	3
MATH 250	Calculus II	4	-
PHYS 203a,b &			
PHYS 253a,b	College Physics and Lab ¹	<u>4</u>	<u>4</u>
		<u>17</u>	<u>15</u>

¹Substitutes for General Education.

Engineering Technology As A Major with a specialization in Mechanical Engineering Technology.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Engineering Technology used in determining the major grade point averages are courses with the prefix ET. This is part of the college's Retention Policy.

A minor is not required. Foreign language is not required.

For the Bachelor's degree in MET the requirements are: 27 semester hours of mathematics and basic science; 30 semester hours of communications, humanities and social studies; 67 semester hours of required and elective technology courses. A minimum of 30 semester hours in Engineering Technology must be taken in residence at SIUC.

Career and Employment Opportunities in MET

Employment opportunities for graduates with B.S. degrees in Mechanical Engineering Technology are excellent. Graduates are employed by electric utilities, manufacturing firms, architectural/engineering firms, and other industries involving mechanical products or equipment.

The English Education major is designed to give the student a thorough background in composition, language, and literature. The various forms of English, American and world literature, contemporary and historic, are studied. The undergraduate major is preparatory for teaching at the secondary level, graduate study, or positions requiring effective communication of ideas.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB 114	American Government	3	-
GEB 202	Introduction to Psychology	-	3
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (Activity)	2	-
Electives ³		<u>2</u>	<u>4</u>
		16	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB 301	U.S. History ²	-	3
GEC 330	Classical Mythology	-	3
GED 153	Public Speaking	3	-
GEE 201	Healthful Living	2	-
ENGL 290	Intermediate Expository Writing	3	-
Electives ³		<u>5</u>	<u>6</u>
		16	15

¹ See also the program under the College of Liberal Arts.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³ Elective hours should be used in the following ways: (1) students may explore areas of interest; (2) they may select a minor.

In Addition

GPA 2.50 minimum for Teacher Education Program.

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). General Education science courses must include one laboratory class.

ENGLISH
(General)
(Pre-Graduate Study)
(Preprofessional)
College of Liberal Arts
(Bachelor of Arts)

Dr. Richard Peterson
Chairperson
Telephone - 618-453-5321
Faner Building, Room 2370

The general background in English is designed for the student who desires a broadly based flexible education leading to a Bachelor of Arts degree with a concentration in English, American and world literatures, including study in the various forms and periods of literature. This specialization is preparatory for graduate study and for occupations placing more than usual emphasis upon effective communication and organization of ideas (e.g., journalism, publishing).

If you have an excellent undergraduate record, a taste for literary analysis and criticism, and a desire to teach young adults rather than adolescents, you might want to consider college teaching as a career. This specialization, which allows a great deal of flexibility in choosing upper-division courses, is specifically designed for the student planning to attend graduate school. The program is designed to give the student a thorough background in composition, language, and literature, both contemporary and historic.

The preprofessional specialization in English is designed for the student who wants to write clearly and effectively and to read with greater understanding. In its emphasis upon language and communication, this program may be particularly attractive to pre-law students. Surveys also show that the English major's verbal abilities are highly desirable in business and government. Courses in literature are included to refine the student's awareness of language, capacity for analytic thinking, and understanding of human behavior.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	3
GEC 330	Classical Mythology ²	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	<u>2</u>	<u>2</u>
		14	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	-
ENGL	English Literature ²	-	3
ENGL	American Literature ²	3	-
FL	Foreign Language	4	4
MATH or CS	Math or Computer Science ⁴	-	3
Elective ⁵		<u>3</u>	<u>4</u>
		16	14

¹See General Education for the Transfer Student.

²Required by the major.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

A major goal of general education, pre-graduate study and preprofessional specializations is to educate students to write clearly and effectively, to read precisely with insight and understanding and to know the history, the artistry, and the humane values of our linguistic and literary heritage. Students who wish to declare English as a concentration should consult the department's director of undergraduate programs as soon as they know they will major in English. If possible, transfer students should contact a departmental advisor before their first registration at SIUC. Any of the English options may be modified by entry into the departmental honors program.

Representative First Job Titles: Editor, Customer Services Personnel, Publications Personnel, Executive Secretary, Copywriter, Correspondent, Critical Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Interpreter.

ENGLISH
(Teacher Education)*
College of Liberal Arts
(Bachelor of Arts)

Dr. Richard Peterson
Chairperson
Telephone - 618-453-5321
Faner Building, Room 2370

The major in English may be pursued through the College of Liberal Arts or the College of Education if you are considering teaching English in secondary schools as a profession. The program is designed to give the student a thorough background in composition, language, and literature. The various forms of English, American and continental literature, contemporary and historic, are studied. The undergraduate major is preparatory for teaching, graduate study, or positions requiring effective communication of ideas.

First Year		Fall	Spring
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	-
GEB 202	Introduction to Psychology ²	-	3
GEC	Humanities (select) ¹	3	-
GED	Math (select) ¹	-	4
GED 101	English Composition ^{1,2}	3	-
GED 102	English Composition II ^{1,2}	-	3
GED 153	Public Speaking ²	-	3
GEE	Human Health and Well Being--activity (select) ^{1,2}	-	2
GEE 201	Healthful Living ²	2	-
		14	18
Second Year		Fall	Spring
GEA	Science (select) ¹	3	-
GEB 114 or 301	Intro. to Am. Gov't or U.S. History	3-4	-
GEC or FL	Humanities (select) ¹ or Foreign Language ³	3-4	3-4
ENGL	English Literature ⁴	-	3
ENGL	American Literature ⁴	3	-
MATH or CS	Math or Computer Science ⁵	-	3
Elective ⁶		3	4
		15-17	13-14

*See also the program under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Required for teacher certification.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁴Required by the major.

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁶Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

Students who wish to declare English as a concentration should consult the department's director of undergraduate programs as soon as they know they will major in English. If possible, transfer students should contact a departmental advisor before their first registration at SIUC.

Students interested in this program should make themselves aware of the requirements for entering the Teacher Education Program, explained elsewhere in this text. The Department of English requires a 2.50 G.P.A. in the major and successful ('C' or better) completion of English 300, Introduction to Language Analysis, for recommendation to Unconditional Status in the Teacher Education Program.

Any of the English options may be modified by entry into the departmental honors program.

ENGLISH
(Writing)
(Creative Writing)
College of Liberal Arts
(Bachelor of Arts)

Dr. Richard Peterson
Chairperson
Telephone - 618-453-5321
Faner Building, Room 2370

Students who wish to pursue and refine an interest in literature and language through their creative abilities may choose this specialization. The equivalent of seven courses, beyond the core curriculum required of all English majors, are offered on-campus, culminating in a senior writing project--a directed written project such as a collection of short stories or poems, a novel or a play. All instructors of these courses are people who have published their own creative writing and the major thrust of the work will be toward publication. An alternative to the senior project may be an internship in a publishing firm if appropriate arrangements can be made.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	3
GEC 330	Classical Mythology ²	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	<u>2</u>	<u>2</u>
		14	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	-
ENGL 281,282,283	Beginning Fiction, Poetry, Drama ²	3	3
FL	Foreign Language ³	4	4
MATH or CS	Math or Computer Science ⁴	-	3
Elective ⁵		<u>3</u>	<u>6</u>
		16	16

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Required by the major. The student should select two courses from 281, 282, and 283.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

English As A Major

Students interested in general writing and creative writing are strongly urged to confer with the director of undergraduate programs in English as soon as possible. The unique design of this specialization requires a great deal of advisement and consultation in order to insure that students go through the proper sequence of courses. If possible, transfer students should contact a departmental advisor before their first registration at SIUC.

Any of the English options may be modified by entry into the departmental honors program.

Representative First Job Titles: Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant, Reporter, Assistant Librarian, Rewriter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

FINANCE

(Financial Management Option)
(Financial Institutions Option)
College of Business and Administration (COBA)
(Bachelor of Science)

Dr. Iqbal Mathur
Chairperson, Dept. of Finance
Telephone - 618-453-2459
Henry J. Rehn Hall, Room 134

The financial implications of decisions in both business and government are daily becoming more complex. Within the firm, financial considerations permeate the central decisions of research, engineering, production and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interest of the students: 1) financial management and 2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in careers related to financial intermediaries and financial markets.

First Year		Fall	Spring
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		15	16
Second Year		Fall	Spring
GEA	Science ¹	-	3
*GED 152,153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	3	-
*ACCT 230	Managerial Accounting	-	3
*CS 212 or CIP 229	Intro. to Computer Programming ³ Computing for Business Admin. ³	-	3
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*FIN 270	Legal & Social Environment of Business ³	3	-
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		15	15

*Required course for a major in COBA.

¹ To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

² ECON 214 or 215 counts toward GEB credit.

³ Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Finance major, the student will take upper level business courses which will prepare the student for an exciting career in the Finance area. These courses include the remaining Core requirements and 21 credits in the Finance area.

Finance As A Major

Neither minor nor foreign language required.

Graduate degrees available; Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

See College of Business and Administration listing for their retention policy and the 40% rule.

Representative First Job Titles: Internal Auditor, Finance Administrator, Financial Analyst, Trust Administrator, Wage-Salary Administrator, Systems Analyst, Inventory Controller, Credit Analyst, Investment Analyst, Operations Research Analyst, Budget Administrator, Consumer Researcher, Controller, Credit Manager, Finance Officer, Financial Management Intern, Bursar Assistant (College), Grant Coordinator (College), Assistant Fiscal Officer, Assistant to the Paymaster, Payroll and Assignment Supervisor, Assistant to the Director of Finance, Head Cashier, Financial Planning Agent, Loan Administrator.

The Bachelor of Science in Fire Science Management is presently offered only at off-campus sites. This degree is designed to provide a technical management program of study which is made up of required core courses, program major requirements, approved major electives, and SIUC general education requirements.

Students who meet the University's baccalaureate admission requirements are eligible for admission. Transfer students must have a cumulative 2.0 GPA or better, based on SIUC coursework, to enter.

Students must complete all coursework in the program core and major requirements and elective areas with a 2.0 GPA or better. Additionally, students must fulfill all University requirements including general education, total hour requirements, residency requirements, and grade point average requirements.

Qualified students may be admitted to the Capstone option. This option reduces the number of hours required in general education from 45 to 30. Graduates of two-year occupational programs are encouraged to investigate and pursue the Capstone option. Students holding associate degrees (or equivalent certification) of at least 60 semester hours in non-baccalaureate programs with a minimum grade point average of 2.25 are eligible. Qualified students can fulfill the Bachelor of Science degree requirements by completing 60 additional semester hours of work approved by a Capstone advisor.

General education requirements may be satisfied by completing courses at any accredited institution of higher education or by credit received through CLEP, USAFI, DANTES, or proficiency examinations. Credit for health and physical education will be awarded for 12 or more months of military service.

Provision is made for recognizing many forms of previous educational, military, and occupational experience for credit toward the degree. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available upon approval by the student's advisor.

Admission to the Bachelor of Science in the Fire Science Management program does not imply admission to any CTC associate degree program.

Fire Science Management Major (off-campus only)

This major is designed to provide advanced practical coursework in the areas of management and supervision. It is designed primarily for students who hold or are nearing completion of the Associate in Applied Science degree or its equivalent in a fire science-related field from a technical institute or community college.

Many graduates from the major are employed in supervisory and management positions in the fire service, insurance industry, fire equipment manufacturing industry, and related fields.

General Education Requirements	46
Requirements for Major	48
Core Requirements: ATS 332, ATS 364, ATS 416, ATS 421	12
Fire Science Management Major Requirements: CIP 232, ATS 362, 387, 402, 412, POLS 340, 443, IT 465	24
12 hours of internship, independent study, or approved equivalent	12
Electives	<u>26</u>
TOTAL	120

FOOD AND NUTRITION
(Dietetics)
Department of Animal Science,
Food and Nutrition
College of Agriculture
(Bachelor of Science)

Dr. Robert D. Arthur, Chair
Telephone - 618-453-2329
Agriculture Building, Room 127

These courses give a strong scientific education to those interested in becoming dietitians in hospitals, college dormitories, industrial plants, health clinics, laboratories, or public health and community organizations. They meet the academic requirements of the American Dietetics Association.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology ¹	3	-
GEB 104 or 108	The Human Experience: Anthropology or Sociological Perspective ¹	3	-
GEC	Humanities (select) ²	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ²	1	-
CIP 109	Computer Information Processing	-	3
F&N 215	Fundamentals of Nutrition	-	2
		<u>16</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology ¹	3	-
GEB 211	Contemporary Economics ¹	-	3
GEC	Humanities (select) ²	3	-
GEA, B, C	(Select) ²	-	3
GEE	Human Health and Well Being (select) ²	2	2
CHEM 222a,b	Chemistry ³	4	4
CIM 237	Early Child Development I	-	3
F&N 256	Science of Food	5	-
		<u>17</u>	<u>15</u>

¹ Required General Education courses.
² Refer to the section on General Education for the Transfer Student.
³ Chemistry 222a counts as GEA credit. The chemistry requirement may be met by Chemistry 222a,b or 380a,b. Chemistry 140a,b may be taken in the management option only.

Third and Fourth Years

The last two years of a student's program includes courses in nutrition, food service systems, diet therapy, and foods.

Post-Baccalaureate Preparation

Students in dietetics are required by the American Dietetics Association to complete a post-baccalaureate internship or practicum in addition to their academic work. This requirement allows students to gain applied experiences in the environment of the profession.

Representative First Job Titles: Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Food Service Supervisor, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Dietician, Research for Consulting Firm, Food & Beverage Control Officer, Hospital Dietician.

FOOD AND NUTRITION

(Food and Lodging Systems Management)
Department of Animal Science,
Food and Nutrition
College of Agriculture
(Bachelor of Science)

Dr. Robert D. Arthur, Chair
Telephone - 618-453-2329
Agriculture Building, Room 127

These courses prepare students for positions as food systems managers for restaurants, hotels, school food service, public and private facilities, airlines, industrial feeding, resorts, institutions, hospitals and clubs. They meet the requirements as set forth by industry, the Council of Hotel, Restaurant, and Institutional Education, and the National Restaurant Association. Through this program in the hospitality field, transfer students from community colleges also will be able to complete their baccalaureate degrees.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology ¹	3	-
GEB	Social Sciences (select) ^{2,4}	3	3
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ²	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ²	2	1
CHEM 140a	Chemistry ³	-	4
		<u>14</u>	<u>17</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities (select) ²	3	3
GEA, B, C	Select ²	-	3
GEE	Human Health and Well Being (select) ²	-	2
ACCT 220, 230	Principles of Accounting 1 & 11	3	3
CIP 109	Computer Information Processing	3	-
F&N 215	Fundamentals of Nutrition	2	-
F&N 256	Science of Food	5	-
Electives		-	3
		<u>16</u>	<u>17</u>

¹Required General Education courses.

²Refer to the section on General Education for the Transfer Student.

³Chemistry 140a counts as GEA credit.

⁴Substitute ECON 214 or 215 for GEB 211.

Third and Fourth Years

The last two years of a student's program concentrates on courses in quantity food preparation, food service systems, and administrative sciences. Students selecting the food and lodging systems management specialization gain practical experience in a variety of aspects of quantity food production and lodging management. This major stresses the functions of organization and management in the hospitality industry.

Representative First Job Titles: Food Service Supervisor, Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Research for Consulting Firm, Food and Beverage Control Officer.

FOOD AND NUTRITION
 (Food and Nutrition Science)
 Department of Animal Science,
 Food and Nutrition
 College of Agriculture
 (Bachelor of Science)

Dr. Robert D. Arthur, Chair
 Telephone - 618-453-2329
 Agriculture Building, Room 127

These courses give a strong scientific education to those interested in preparing for graduate study in food, nutrition or related disciplines; for research in university, industrial or governmental laboratories; or for educational and promotional work in industry or public health organizations.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology ¹	3	-
GEB	Social Sciences (select) ²	3	3
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II ²	-	3
GEE	Human Health and Well Being (select) ²	-	1
MATH 108, 109	College Algebra and Trigonometry ³	3	3
PHSL 208, 209	Physiology	-	4
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology ¹	3	-
GEC	Humanities (select) ²	-	3
GEA, B, C	(Select) ²	3	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ²	2	2
CHEM 222a,b	Introduction to Chemical Principles ⁴	4	4
F&N 215	Fundamentals of Nutrition	2	-
	Electives	-	3
		<u>17</u>	<u>15</u>

¹Required General Education courses.
²Refer to the section on General Education for the Transfer Student.
³Math 108 meets the University Math requirements.
⁴Chemistry 222a counts as GEA credit.

Third and Fourth Years

The last two years of a student's program concentrate on chemistry, nutrition, and biological sciences. Students in the food and nutrition science specialization gain experience in various research methodologies and develop a working knowledge of the scientific method.

Representative First Job Titles: Food Technologist, Food and Drug Inspector, Food Buyer, Food Industry Technician, Food Products Salesman, Food Processing Technician, Food Service Supervisor, Quality Control Technician, Agricultural Commodities Inspector, Consumer Safety Inspector, Dietician, Research for Consulting Firm, Food & Beverage Control Officer, Hospital Dietician.

FOREIGN LANGUAGE AND INTERNATIONAL TRADE
College of Liberal Arts
(Bachelor of Arts)

Dr. Margaret E. Winters, Chair
Dr. Eugene Timpe, Director
Telephone - 618-536-5571
Faner Building, Room 2162

The new Foreign Language and International Trade major combines courses from the College of Liberal Arts and the College of Business and Administration. It consists of 30-32 semester hours of business-related courses and approximately the same number of credits in one of these foreign languages: French, German, Japanese, Spanish, Russian and Chinese. An internship late in the program gives the student opportunity to travel and work in an international company or agency.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 202	Psychology ²	3	-
GEC	Humanities (select) ²	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
FL	Foreign Language ^{2,3,5}	4	4
GED 107 or MATH 139	Intermediate Algebra or Finite Math	-	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 250	Politics of Foreign Nations ²	3	-
GEC	Humanities (select) ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	-	2
ECON 214	Introduction to Macroeconomics ²	3	-
ECON 215	Introduction to MicroEconomics ²	-	3
FL	Foreign Language ²	<u>4</u>	<u>4</u>
		<u>16</u>	<u>15</u>

¹To determine what courses may be taken to satisfy General Education requirements, see the section, General Education for the Transfer Student.

²Required for major.

³Four hours may be used for GEC credit.

⁴May be used for three credits in GEB.

⁵May be used for partial fulfillment of the College of Liberal Arts requirement.

Foreign Language and International Trade As A Major

The Foreign Language and International Trade major gives its graduates the best available training for entry into the international business community. Students take courses which give them background in the business world, the culture, religion, philosophy, politics, history and geography of the country where the language they are studying is spoken.

Besides the major courses, the student must complete all other General Education, College, and University requirements.

Representative First Job Titles: Market Researcher, Administrator of State, International, Federal, and Local Government Offices, Professional in areas including Taxes, Logistics, Banking, Insurance, Contracts and Sales.

FOREIGN LANGUAGES (TEACHING)
(French, German, Spanish)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Margaret E. Winters, Chair
Foreign Languages
Telephone - 618-536-5771
Faner Building, Room 2166

Major concentrations leading to the Bachelor of Science degree are offered in French, German, Latin, Russian, and Spanish. Courses are also offered in Chinese, Classical Greek, Italian, Portuguese, Serbo-Croatian, and Vietnamese. (Serbo-Croatian and Vietnamese are offered in cooperation with the Department of Linguistics, etc.). Programs offered in foreign languages can be preparatory for graduate study, teaching, or other positions requiring the ability to speak, read, understand, and interpret foreign languages. The federal government provides opportunities for individuals with such skill.

Many graduates with foreign language skills can find interesting opportunities with private industry, foreign news bureaus, airlines, and travel agencies as well. In addition, university and research institute libraries, and social work agencies offer varied work situations for people with foreign language facility.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB 114	American Government	3	-
GEB 202	Introduction to Psychology	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	PE Activity ¹	2	-
GEE 201	Healthful Living	-	2
FL	Elementary French, German, and Spanish	4	-
FL	Continue above	-	5
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 301	U.S. History ¹	-	3
GEC	English elective in Humanities (select) ¹	3	-
GEC	Humanities (select) ¹	3	3
GED 153	Public Speaking	-	3
GE	Elective	3	-
FL	Intermediate French, German, or Spanish	4	4
		<u>16</u>	<u>16</u>

¹ Refer to section General Education for the Transfer Student.

Courses required for certification include GEB 202; GEB 114; GEB 301; GED 101; GED 102; GED 153; GEE 201; one additional English course from GEC, GED, or department. At least one three semester hour course must be taken in non-western or third world cultures from Humanities or Social Studies (GEC 213). General Education science courses must include one laboratory course.

Language As A Major

Students interested in majoring in any of the offered languages should be aware of the requirements for entrance into the Teacher Education Program.

No minor is required. However, minors are available in Chinese, Greek, Latin, East Asian Civilizations, Italian, and Japanese.

Graduate degrees are available.

FORESTRY
(Forest Resources Management Specialization)
College of Agriculture
(Bachelor of Science)

Dr. Dwight R. McCurdy, Chair
Telephone - 618-453-3341
Agriculture Building, Room 184

The Department of Forestry has as its primary goal to provide an undergraduate program that prepares students for active roles in professional forestry. These roles include positions in public agencies in all levels of government; private firms, especially in the forest industry; and self-employment. The program in forest resources management includes instruction leading to careers in forest management and production, multiple use resource management, and the forest products industries. The specialization is accredited by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week session (Field Study) is required after the junior year to give the student practical field experience.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Introductory Zoology	-	4
GEB	Social Studies (select) ²	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	-	2
BOT 200	General Botany with Lab ¹	4	-
CHEM 140 a & b	Chemistry ¹	4	4
FOR 200	Introduction to Forestry	1	-
MATH 140	Calculus ¹	-	4
		<hr/> 15	<hr/> 17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEC	Humanities (select) ²	6	3
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being (select) ²	-	2
BIOL 307	Environmental Biology ¹	3	-
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	1
FOR 331	Forest Ecosystems	-	3
MATH 283	Introduction to Applied Statistics	-	3
PLSS 240	Soil Science	4	-
		<hr/> 17	<hr/> 15

¹Substitutes for General Education requirements.

²To determine what courses may be taken to satisfy the general education requirements for this major, please refer to the section, General Education for the Transfer Student.

Third and Fourth Years

The last two years of study is concentrated in a series of forestry and related areas which enable the student to develop professional competencies in the management of forest resources. Students gain experience with field applications of professional skills during a five week early summer session immediately following the junior year.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab-Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest and many state parks and conservation areas together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

The Department of Forestry has as its primary goal to provide an undergraduate program that prepares students for active roles in professional forestry. These roles include positions in public agencies in all levels of government; private firms, especially in the forest industry; and self-employment. The forest science option is intended for students who plan to enter a graduate program in forestry upon completion of the baccalaureate program. The student and his or her advisory committee, consisting of two Department of Forestry faculty members, plan an individualized program to meet the student's educational and professional goals. The program of study may be selected from any subject within the competence of the Forestry Department faculty.

Admission to the program is limited to students with a grade point average of 3.0 or above (on a 4.0 = A scale) and the student must maintain a 3.0 or above average to remain in the program.

First Year		Fall	Spring
GEA 118	Introductory Zoology	4	-
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GEE	Human Health and Well Being (select) ²	-	1
BOT 200	General Botany with Lab ¹	-	4
CHEM 140a & B	Chemistry ¹	4	4
FOR 200	Introduction to Forestry	1	-
MATH 140	Calculus ¹	-	4
		15	16
Second Year		Fall	Spring
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	3	3
GED 102	English Composition II ²	3	-
GEE	Human Health and Well Being (select) ²	2	2
BIOL 307	Environmental Biology ¹	3	-
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	1
FOR 331	Forest Ecosystems	-	3
MATH 283	Introduction to Statistics	-	3
PLSS 240	Soil Science	-	4
		18	16

¹Substitutes for General Education requirements.

²To determine what courses may be taken to satisfy general education requirements for this major refer to the section General Education for the Transfer Student.

Third and Fourth Years
 There are four additional forestry courses which are required during the third and fourth years to complete the professional forestry core. The remainder of the third and fourth years are elective, selected by the student and his or her committee to satisfy the student's educational and professional goals.

Forestry As A Major
 Available to the Department of Forestry for teaching and research are the following: the Crab-Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest and many state parks and conservation areas together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

FORESTRY

(Outdoor Recreation Resources
Management Specialization)
College of Agriculture
(Bachelor of Science)

Dr. Dwight R. McCurdy, Chair
Telephone - 618-453-3341
Agriculture Building, Room 184

The Department of Forestry has as its primary goal to provide an undergraduate program that prepares students for active roles in professional forestry. These roles include positions in public agencies in all levels of government; private firms, especially in the forestry industry; and self-employment. The program in outdoor recreation resource management provides interdisciplinary professional training in developing, maintaining and managing forests and wildlands as recreational areas. The specialization is accredited by the Society of American Foresters. The courses offered are among those recommended by the National Recreation and Park Association. A special feature of the outdoor recreation resource management option is the two-week tour through selected sections of the U.S. to study outdoor recreation and park facilities. This tour normally is programmed in the summer following completion of the third year in the program.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Environmental and Biological Studies (select) ²	-	3
GEB	Social Studies (select) ²	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	-	2
BOT 200	General Botany with Lab ¹	4	-
CHEM 140a & b	Chemistry (organic/inorganic) ¹	4	4
FOR 200	Introduction to Forestry	1	-
MATH 140	Calculus ¹	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Environmental and Biological Studies (select) ²	3	-
GEB	Social Studies (select) ²	-	3
GEC	Humanities (select) ²	3	-
GEC 205	Innovation for the Contemporary Environment	-	3
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being (select) ²	2	-
FOR 201	Ecology of North American Forests	3	-
FOR 202	Tree Identification Lab	1	1
FOR 331	Forest Ecosystems	-	3
MATH 283	Introduction to Applied Statistics	-	3
PLSS 240	Soil Science	4	-
		<u>16</u>	<u>16</u>

¹Substitutes for General Education requirements.

²To determine what courses may be taken to satisfy the general education requirements for this major, please refer to the section, General Education for the Transfer Student.

Third and Fourth Years

Professional and related courses are emphasized during the junior and senior years to develop competence in management of recreational resources of forested environments. A three week summer tour of outdoor recreation facilities is included.

Forestry As A Major

Available to the Department of Forestry for teaching and research are the following: the Crab-Orchard National Wildlife Refuge; the Shawnee National Forest; the Union State Tree Nursery and Forest and many state parks and conservation areas together comprising several hundred thousand acres of forest land, all in the vicinity of the University. Also accessible for wood utilization teaching and research is a modern wood products plant located at the Vocational-Technical Institute east of Carbondale. The Southern Illinois University Experimental Forest and Giant City State Park provide additional facilities for teaching and research, especially during the spring camp. In addition, staff members of the U. S. Forest Service Carbondale Research Center are affiliated with the Department of Forestry and help to enrich the University's forestry program.

Representative First Job Titles: Agricultural Aid, Recreational Resource Planner, Forest Engineer, Silviculture Specialist, Forest Utilization Specialist, Forest Recreation Specialist, Range Manager, Watershed Manager, Wildlife Manager, Forest Products Technologist, Animal Ecologist, Plant Ecologist, Pollution Control Specialist, Forest Conservation Specialist, Public and Environmental Health Forester, Parks Supervisor, Grazing Lands Supervisor, Research Forester, Forest Extension Worker, Timber Manager, Park Ranger, Soil Conservationist, Forest Resources Manager.

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, French, Foreign Language and International Trade, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) has the option to earn proficiency credit through taking a proficiency exam in Latin at the Testing Center or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. The Foreign Language Department will honor CLEP exams in French, German and Spanish. As an alternative or for additional credit, students who can enter at the 200 level or above are encouraged to take a validating course. Since credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment and career possibilities that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas where language proficiency is a supporting factor, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

First Year		Fall	Spring
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
FR 123a,b or	Elementary French ²		
FR 201a,b	Intermediate French	4	4
		15	16
Second Year			
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
FR 220a,b	Intermediate French Conversation ⁴	2	2
FR 201a,b or	Intermediate French or ³	4	4
FL 320 & FR 321	Adv. Language Skills & Adv. Conversation	(4)	(3)
MATH or CS	Math or Computer Science ⁵	-	3
		15	15

*See also Foreign Language Education under the College of Education.

¹See General Education for the Transfer Student.

²Two semesters (general eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit. This first year of French does not count toward the major.

³Required by the major. Students with more than one year of high school French should take at least one substantial course in the French major each semester.

⁴French 200a,b is recommended but does not usually count towards major or minor requirements.

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

French As A Major

A major in French consists of 36 semester hours in courses above the 100 level with a minimum of 14 hours on the 300 level (to include 320), 14 hours on the 400 level (may include FL 436), and one literature course at the 300 or 400 level is required. A minor in French consists of 18 semester hours in courses above the 100 level (to include 320). Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant.

GEOGRAPHY¹
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Chairperson
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Faner Building, Room 4520

The Department of Geography specializes in Environmental Planning and Cartography and information management. Students may earn the Bachelor of Arts or the Bachelor of Science degree in Liberal Arts or the Bachelor of Science degree in Education. Programs for the Liberal Arts degree are oriented toward graduate work, and careers in industry and governmental agencies. The Bachelor of Science in Education prepares a student for secondary school or community college teaching.

The program offers a variety of courses. A typical program for the freshman and sophomore years is listed below.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB 103	Geography of the Human Environment	3	-
GEB 301	U.S. History ²	3	-
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ²	2	-
GEE 201	Healthful Living ²	-	2
		<u>17</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 330	Weather	3	-
GEB 114	American Government	3	-
GEB 202	Introduction to Psychology	3	-
GEC	English Elective in Humanities (select) ²	3	-
GED 153	Public Speaking ²	-	3
GEOG 300	Introduction to Geography	-	3
GEOG 302	Physical Geography	-	3
Electives ²		<u>3</u>	<u>6</u>
		<u>15</u>	<u>15</u>

¹ See also the program under the College of Liberal Arts.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). General Education science courses must include one laboratory class. At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213).

Geography As A Major

The geography major will take many other courses in the junior and senior years. These include Natural Resources Planning, Water Resources Hydrology, Recreation, Planning, Environmental Systems Analysis, Computer Cartography, Geographic Information Systems, And Regional Planning. The department offers regional geography of Illinois, the United States, and the world. Geography majors must also have a minor (Geology, Forestry, or Economics are typical).

The Department of Geography has an abundance of resources to support its instructional program. Morris Library contains over 100,000 maps. The department also maintains a Cartographic Laboratory where students obtain training in map construction and the Environmental Simulations Laboratory (ESL) which develops software for computer simulation of environmental problems such as weather, air and water pollution, floods and earthquakes. The personal computer facilities of ESL are used extensively for computer assisted instruction.

Finally, southern Illinois provides a natural laboratory for geography students. The diversity in physical landforms and geomorphology, economic and cultural environments provides excellent conditions for students pursuing in-depth studies in southern Illinois.

GEOGRAPHY*

College of Liberal Arts
(Bachelor of Arts)
(Bachelor of Science)

Dr. David Sharpe, Chairperson
Dr. Doayne Horsley, Undergraduate
Advisor
Telephone - 618-536-3375
Faner Building, Room 4520

The Department of Geography specializes in Environmental Planning, and Cartography and information management. Students may earn the Bachelor of Arts or the Bachelor of Science degree in Liberal Arts or the Bachelor of Science degree in Education. Programs for the Liberal Arts degree are oriented toward graduate work and careers in industry, and governmental agencies. The Bachelor of Science in the Education degree program prepares a student for secondary school or community college teaching.

The program offers a variety of courses. A typical program for the freshman and sophomore years is listed below.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 103	Geography of the Human Environment (optional)	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	<u>2</u>	<u>2</u>
		14	14
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Physical or Biological Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
FL	Foreign Language ²	4	4
GEOG 300	Introduction to Geography ³	3	-
GEOG 310	Introductory Cartography ⁴	-	3
MATH 108	College Algebra ^{4,5}	-	3
Elective		<u>3</u>	<u>-</u>
		16	16

*See also the program in the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college Fall 1978 or later. However, four of these hours may be used for GEC credit.

³Required by the major.

⁴Geography requires Math 108 and Math 116 or 139.

⁵Math 108 or Computer Science 102, 129 or 212 satisfy the Liberal Arts mathematics requirements for students beginning college Fall 1978 or later.

Geography As A Major

The geography major will take many other courses in the junior and senior years. These include Natural Resources Planning, Water Resources Hydrology, Recreation Planning, Environmental Systems Analysis, Computer Cartography, Geographic Information Systems, and Regional Planning. The department offers regional geography of Illinois, the United States and the world. Geography majors also must have a minor (Geology, Forestry or Economics are typical).

The Department of Geography has an abundance of resources to support its instructional program. Morris Library contains over 100,000 maps. The department maintains a Cartographic Laboratory where students obtain training in map construction.

The Environmental Simulations Laboratory (ESL) develops software for computer simulation of environmental problems such as weather, air and water pollution, floods, and earthquakes. The personal computer facilities of ESL are used extensively for computer assisted instruction.

Finally, southern Illinois provides a natural laboratory for geography students. The diversity in physical landforms and geomorphology, economic and natural resources, and cultural environment provide excellent conditions for students pursuing in-depth studies in southern Illinois.

Representative First Job Titles: Geographer, Environmental Planner, Cartographer, Geographic Information Systems Specialist, Regional Analyst, Photo-Intelligence Specialist, Map Librarian, Location Analyst, Sales Representative, Planner, Conservation Specialist, Recreation Planner.

GEOLOGY

College of Science
(Bachelor of Science)
(Bachelor of Arts)

Dr. John E. Utgaard
Department Chair
Telephone - 618-453-3351
Parkinson Laboratory, Room 102

Geology is the science of the earth. It deals with earth materials, processes and history. Both field and laboratory studies are important aspects of geological work. Employment opportunities for geologists are found within state and federal geological surveys, private and public organizations concerned with the quality and development of water resources, engineering firms, government agencies concerned with planning, land use, geologic hazards, construction, hazardous waste disposal, and the petroleum, coal and other mining industries. Other geologists become teachers at a variety of levels from grade school to college.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Sciences (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (Activity)	2	-
CHEM 222 a,b	Introduction to Chemical Principles ^{1,4}	4	4
GEOL 220	Physical Geology ¹	3	-
GEOL 221	Historical Geology	-	3
MATH 108,109	College Algebra and Trigonometry ^{1,4}	3	3
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Sciences (select)	-	3
GEC	Humanities (select)	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
FL	German, Russian, French or Spanish recommended ^{1,4}	4	4
GEOL 310 or	Mineralogy ² or	4	-
MATH 150	Calculus I ³	(4)	-
PHYS 203, 253 or 205, 255	College Physics or University Physics ^{1,3}	4	4
		<u>15</u>	<u>16</u>

¹Substitutes for General Education requirements.

²If more advanced geology courses such as mineralogy are not offered at your school, take calculus, social studies, humanities, botany or zoology instead. Our program is designed so that a transfer student can easily finish the geology curriculum in two years provided the student has taken most of the specified courses in chemistry, physics, foreign language and mathematics.

³If Physics 205 is taken, the student must enroll concurrently (or previously) in Math 150.

⁴Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences.

Third and Fourth Years: The last two years of a student's program allow some concentration on professional objectives. Students in the Bachelor of Arts degree program would take geology courses, biology courses, social studies, humanities and a large number of elective courses. Students in the Bachelor of Science degree program would take some additional social studies and humanities, biology courses, required geology courses and geology electives, a science or technology elective and free electives. The Department has excellent laboratory facilities. SIUC is located close to a variety of geologic settings suitable for field research and trips.

Geology As A Major: Students in geology can work toward a Bachelor of Arts or a Bachelor of Science degree. The B.S. curriculum is recommended for those planning to pursue graduate studies or a professional career in geology. A summer field course in the Rocky Mountains (normally taken between the junior and senior years) is required for the B.S. degree and is strongly recommended for the B.A. degree. The Department has state of the art laboratory and field equipment. Students are permitted to utilize this equipment and are encouraged to use it in independent study projects. With few exceptions, classes for geology majors tend to be small, and students have the opportunity for close contact with the faculty and receive individual attention both within and outside the classroom. The Department assists students in finding suitable graduate programs or jobs in geology and related areas.

Representative First Job Titles: Geologist, Astrogeologist, Cartographer, Environmental Scientist, Economic Geologist, Exploration Geologist, Inorganic Geochemist, Organic Geochemist, Isotope Geochemist, Geological Engineer, Geological Oceanographer, Geological Researcher, Geophysical Exploration Scientist, Geophysicist, Groundwater Geologist, Hydrogeologist, Volcanologist, Igneous Petrologist, Metamorphic Petrologist, Petroleum Geologist, Photogeologist, Resource Evaluator, Sedimentologist, Stratigrapher, Surveying Geologist, Geomorphologist, Structural Geologist, Product Studies and Testing Geologist, Seismologist, Paleontologist, Laboratory Assistant, Teacher, Professor.

GERMAN*
College of Liberal Arts
(Bachelor of Arts)

Dr. Margaret E. Winters, Chair
Telephone - 618-536-5571
Faner Building, Room 2162

Programs of study in foreign languages leading to the Bachelor of Arts degree in the College of Liberal Arts (with or without teacher certification) are offered in Classics, French, Foreign Language and International Trade, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree in the College of Liberal Arts for students who have a professional or occupational interest in Asia.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) has the option to earn proficiency credit through taking a proficiency exam in Latin at the Testing Center or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. The Foreign Language Department will honor CLEP exams in French, German and Spanish. As an alternative or for additional credit, students who can enter at the 200 level or above are encouraged to take a validating course. Since credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

First Year		Fall	Spring
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
GER 126a,b	Elementary German ²	4	4
		15	16
Second Year		Fall	Spring
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	2	-
GER 201a,b	Intermediate German ³	4	4
MATH or CS	Math or Computer Science ⁴	-	3
		15	13

*See also Foreign Language Education under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit. This first year of German does not count toward the major.

³Required by the major. Students with more than one year of high school German should carry at least one substantial course in the German major each semester.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

German As A Major

A major in German consists of 36 semester hours in courses above the 100 level, to include the basic language sequence and one literature course (300 or 400 level). The student must complete 12 hours on the 300 level (to include 320) and 12 hours on the 400 level, plus 4 hours of electives on the 300 or 400 level. A minor in German consists of 18 semester hours in courses above the 100 level.

Transfer students who major in a foreign language must complete a minimum of 21 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Executive Secretary, Copywriter, Reporter, Technical Writer, Educational Television Staff, Manufacturer's Representative, Sales Agent, Recreation Specialist, Interpreter.

HEALTH CARE MANAGEMENT
College of Technical Careers
(Bachelor of Science)

Dr. Elaine M. Vitello, Coordinator
Telephone - 618-453-8898
Technical Careers Building
Room 126

The health care management major provides coursework and experience across the spectrum of health care supervision and management. Many HCM graduates obtain supervisory and administrative positions in various health and medical care facilities such as hospitals, nursing homes, public health departments, and health care training institutions. The bachelor of science in health care management allows students who have completed an A.A.S. degree or diploma program to build upon their technical training through a combination of core courses, major requirements, approved major electives, and SIUC general education requirements.

The 46 hour general education requirement may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, DANTES or through proficiency examinations. Students who have completed an A.A.S. degree may be eligible for the Capstone option which reduces the hours required in General Education from 46 to 30. Students may also receive credit for previous educational, military and occupational experience. Credit is established by departmental evaluation. Field internships and independent study opportunities are available upon approval by the student's faculty advisor.

First Year

GEA	Science (select)	3	3
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select)	2	-
Electives or	Technical Specialization	7	5
		<u>18</u>	<u>17</u>

Second Year

GEA	Science (select)	3	-
GEB	Social Science (select)	3	3
GEC	Humanities (select)	-	3
GED 102	English Composition II	-	3
GED 152	Interpersonal Communication or		
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (select)	-	2
Electives or	Technical Specialization	9	8
		<u>18</u>	<u>19</u>

*GE Total = 46 hours. See advisor to determine eligibility for Capstone option.

Third and Fourth Years

ATS core courses -- 12 hours required		
ATS 364	Work Center Management	3
ATS 383	Data Interpretation	3
ATS 416	Applications of Technical Information	3

Two of the following:

ATS 332	Labor Management Problems	3
ATS 421	Professional Development	3
		<u>12</u>

Health Care Management Specialization Requirements - Minimum 15 hours

ATS 380	Seminar in Health Care Services	3
ATS 381	Health Care Management	3
ATS 382	Health Economics	3
ATS 384	Equipment and Material Management	3
ATS 385	Fiscal Aspects of Health Facilities	3
ATS 388	Legal Aspects of Health Care	3
		<u>15</u>

Persons who wish to sit for the State Nursing Home Licensure Examination may complete a course of study in nursing home administration (listed below) that is approved under Title 68:Section 310.40 of the Rules for Nursing Home Administrators Licensing Act.

ATS 364	Work Center Management	3
ATS 413	Nursing Home Management	3
ATS 385 AND	Fiscal Aspects of Health Facilities	3
HED 440 OR	Health Issues in Aging	3
HEHB 446	Psychosocial Aspects of Aging	3

Health Care Management Specialization Electives - 9 hours

Courses must be approved by advisor.

Internship, independent study, or approved equivalent - 12 hours

Approved career electives - 26 hours

TOTAL: 120 hours

HEALTH EDUCATION
(Community Health)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Dale Ritzel, Chair
Telephone - 618-453-2777
Arena, Room 126

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Health Education in Secondary Schools. For those planning to teach or supervise health education in the secondary schools.
2. Community Health. For those planning to conduct health education and health promotion activities in non-classroom settings.

The two minimal professional preparations are:

1. Health Education in Secondary Schools. For those certified to teach in Illinois secondary schools who wish minimal preparation to teach health education.
2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field. The Community Health specialization does not lead to teacher certification. The following are recommended courses for this specialization.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	2
Electives	Including P.E. Activity	<u>2</u>	<u>3</u>
		16	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	3
GE	Additional course work from A, B, or C (select) ¹	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
Electives		<u>6</u>	<u>3</u>
		15	15

¹ Refer to the section General Education for the Transfer Student.

Third and Fourth Years

For the remaining years of the degree program, the student will concentrate on specific requirements in health education and related areas.

The community health specialization is also an attractive bachelor's degree alternative for students holding an associate in applied science degree in a health field.

HEALTH EDUCATION
(Health Education in Secondary Schools)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Dale Ritzel, Chair
Telephone - 618-453-2777
Arena, Room 126

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Health Education in Secondary Schools. For those planning to teach or supervise health education in the secondary schools.
2. Community Health. For those planning to conduct health education and health promotion activities in non-classroom settings.

The two minimal professional preparations are:

1. Health Education in Secondary Schools. For those certified to teach in Illinois secondary schools who wish minimal preparation to teach health education.
2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field. The following are recommended courses for the specialization in Health Education in secondary schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 202	Introduction to Psychology ²	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ^{1,2}	-	3
GED 107	Intermediate Algebra	-	3
GEE 201	Healthful Living ²	-	2
GEE	PE Activity ²	-	2
GE	Electives	3	-
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 114	American Government	-	3
GEB 301	U.S. History	3	-
GEC	English Elective in Humanities (required) ²	3	-
GED 153	Public Speaking ²	-	3
GE	Additional course from A, B, or C	3	-
Electives		5	7
		<u>14</u>	<u>16</u>

¹ Refer to the section General Education for the Transfer Student.

² The following specific General Education courses listed are required for Teacher's Certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GEC 213, a three semester hour course in non-western or third world cultures from either Humanities or Social Science. GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). General Education science courses must include one laboratory class.

The history major consists of 32 semester hours. From this, six courses must be evenly distributed over either two or three fields chosen from American, European, or "Third World" history offerings; i.e.; either two courses in each of the three fields or three courses in each of two of the three fields. Illinois state certification requires a minimum of eight semester hours of American History. The student must also complete a total of three courses at the 400 level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being--activity	1	-
GEE 201	Healthful Living	-	2
HIST 205A	History of Western Civilization I	3	-
HIST 205B	History of Western Civilization II	-	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB 114	American Government	-	3
GEB 301	U.S. History	-	3
GEC	English Elective in Humanities (select) ²	3	-
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (Activity)	1	-
HIST 300	Origins of Modern America, 1492-1877	3	3
HIST	Electives	6	4
		<u>16</u>	<u>16</u>

¹See also the program under the College of Liberal Arts.
²Refer to the section General Education for the Transfer Student.

History As A Major

The following courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 212, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). General Education science courses must include one laboratory class.

The history major consists of 33 semester hours in addition to GE-B 301 American History. Courses in American History, Western Civilization and European History, and research writing are required. History electives are taken in two fields of History. Four courses at the four hundred level must be completed.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	2	2
HIST 205	Western Civilization ²	3	3
		<u>14</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB 301	Modern America - from 1877 to the Present ²	-	3
GEB	Social Science (select) ¹	3	3
FL	Foreign Language ³	4	4
HIST 300	Origins of Modern America, 1492-1877 ²	3	-
MATH or CS	Math or Computer Science ⁴	-	3
Elective		3	3
		<u>16</u>	<u>16</u>

*See also the program under the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Required by the major.

³Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students. However, four of these hours may be used for GEC credit.

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement.

⁵Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Third and Fourth Years

The history student has great flexibility in designing a third and fourth year program to meet specific career goals. Minimum requirements demand an additional twenty hours in the major, averaging one or two courses a semester. Additional courses may be devoted to studying some field of history in greater depth, or to developing a strong secondary field or job skill. Examples are computer science, foreign languages, secondary education, or journalism. When possible, transfer students should contact the department prior to their first semester of attendance. Transfer students must earn at least 16 semester hours of history credit at SIUC.

History As A Major

Formerly, people thought that the only thing someone did with a history major was teach. Although that can be a fine career, the fact is that the majority of history majors do not teach. With a background in history many students enter library and archival work, government and diplomatic service or news and special events reporting. Currently, former SIUC history majors occupy positions in institutions ranging from the CIA and Chase-Manhattan Bank, through Sears Roebuck, British Airways, ABC, and Time-Life. The history major is also an excellent preparation for law school and for graduate work in a wide variety of fields.

Representative First Job Titles: Administrative Aide, Legal Assistant, Policy Researcher, Archival Worker, Records Manager, Museum Curator, Library Administrative Assistant, Market Researcher, Needs Analyst, Environmental Historian, Genealogical Researcher, Military Historian, Legislative Research Assistant, Editor or Editorial Assistant, Publishing Sales Representative, Peace Corps Volunteer, Historical Society Director, Newscaster, Budget Analyst, Teacher, Overseas Marketing Assistant, Corporate Archivist.

INDUSTRIAL TECHNOLOGY
College of Engineering and Technology
(Bachelor of Science)

Chair
Telephone - 618-536-5545
Technology Building, Room D127

The Industrial Technology program has as its objective the training of qualified personnel who can develop and direct the production of products and services. There are two specializations: manufacturing technology and mining technology; however, the mining technology specialization is presently inactive.

The Industrial Technology program is designed to prepare management-oriented technical professionals in the economic-enterprise system. Industrial technology professionals will be involved with: 1) the application of significant knowledge of theories, concepts, and principles found in the humanities and the social and behavioral sciences including a thorough grounding in communications skills, 2) the understanding and ability to apply principles and concepts of mathematical and physical sciences, and 3) the application of concepts derived from, and current skills developed in, a variety of technical disciplines including, but not limited to, robotics, processes, computer-aided manufacturing, quality control, motion and time study, plant layout, materials handling, industrial safety, production and inventory control, human relations and computer-aided drafting.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115, 117 or 118	Biological Science	-	3 or 4
GEB	Social Science (select) (Psychology) ¹	3	3
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
IT 208	Fundamentals of Manufacturing Processes	3	-
MATH 111	Pre-Calculus ²	5	-
MATH 140	Short Course in Calculus	-	4
		<u>16</u>	<u>16 or 17</u>
<u>Second Year</u>			
GEB	Social Science (select)	-	3
GEC	Humanities (select)	3	-
GED 153	Public Speaking	-	3
GEE	Human Health and Well Being (Activity)	-	2
CS 212	Introduction to Business Computing	3	-
IT 105	Technical Sketching	3	-
IT 209	Manufacturing Processes Lab	-	3
PSYC 323	Psychology of Employee Relations	3	-
PHYS 203a,b &			
PHYS 253a,b	College Physics and Lab ²	4	4
		<u>16</u>	<u>15</u>

¹Recommended, not required.

²Substitutes for General Education requirements.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Industrial Technology used in determining the major grade point averages are courses with the prefix IT. For transfer students with an Associate in Applied Science degree in an occupational program, the required courses are dependent on the student's previous program. For each specialization (manufacturing and mining), 30 hours in Industrial Technology courses must be taken at SIUC. A Capstone option may be available in the Industrial Technology major.

Industrial Technology (Manufacturing) As A Major

Community college occupational and technical credit (data processing, electronics technology, management, marketing, mechanical technology, metals technology, plastics, transportation, building construction, architectural drafting, to name a few) can be accepted as applicable towards degree requirements. This permits the student to obtain a Bachelor of Science degree in a minimum length of time. For the bachelor's degree, the recommended guidelines are met through the completion of 35 semester hours in the Industrial Technology core, and 48 in the technical specialization.

Career Opportunities

Employment opportunities for graduates are excellent which permits a wide range of initial job selectivity and more flexibility for later job promotion or job transfer. Federal statistics show that in the present decade, the need for technologists and related workers will continue. Positions needed in all types of industry are associated with production planning and scheduling, process design, quality control, methods analysis, personnel supervision, material and equipment procurement, facility planning, equipment design, job estimation, technical sales, maintenance supervision, and other manufacturing-related functions.

Representative First Job Titles: Manufacturing Manager, Production Planning and Control, Quality Assurance Specialist, Safety Engineer, Industrial Engineer, First Line Supervisor, Operations Planner, Marketing Support Engineer, Manufacturing Engineer, Salary Administrator, Plant Location Engineer.

INDUSTRIAL TECHNOLOGY
(Mining Technology Specialization)
College of Engineering and Technology
(Bachelor of Science)

Chair
Telephone - 618-536-5545
Technology Building, Room D127

Industrial Technology (Mining) As A Major (This option has been put ON HOLD effective Fall 1987--no new students will be admitted until further notice).

The world-wide energy crisis has created a growing demand for coal and other mining products and the need for technologists and engineers in the mining industry is expected to increase dramatically in the next decade. To help meet this growing demand, Southern Illinois University at Carbondale offers courses in mining technology which culminate in a Bachelor of Science degree in Industrial Technology. Industrial Technology is an available Capstone option.

The program is primarily designed to provide a capstone of subject matter for those students who complete programs in mining technology or related areas at community colleges or technical institutes. Courses offered at Southern Illinois University at Carbondale include topics such as coal analysis, coal mining problems, labor relations, materials handling, surveying, motion and time study, quality control, underground and surface mining technology, and others.

The required courses are dependent upon the student's academic background and work experience. In general, the baccalaureate degree can be obtained in two academic years after completing an associate degree in mining technology or a related field at a community college or technical institute.

Career Opportunities

Employment opportunities in the mining industry are available in technical management positions for college educated people with mining experience.

Representative First Job Titles: Production Planning and Control, Safety Engineer, Motion and Time Study Analyst, First Line Supervisor, Operations Planner, Marketing Support Engineer, Manufacturing Engineer, Salary Administrator, Plant Location Engineer.

The interior design major offered by the College of Technical Careers is an architecturally oriented program accredited by the Foundation for Interior Design Education Research (FIDER). The student receives a comprehensive, interdisciplinary education in preparation for designing and administration positions in the fields of residential, commercial, and contract design. The SIUC Interior Design graduate is qualified to practice professionally in private practice, for interior design/space planning firms, for architectural firms as the interior design or interior design team member, as a facilities planner for corporations, institutions and governmental agencies as well as in industrial design and sales.

In the world of interior design and architecture, the opportunities are more open and exciting than ever before. The vocabulary and pallet of design thinking and execution has never been as expansive as it is today. The need for students versed in the vocabulary of interior design within the context of architecture offers extensive professional opportunities. The program at SIUC is a comprehensive four year program that encourages individuality in thinking. To be a good designer, one has to be a creative thinker and willing to look at alternatives of a possible design solution within the parameters of the project requirements which include the program, the budget and the project schedule. In developing the design solution for the client, the student is encouraged to solve the problems creatively. Once the ideas are conceived, it is very important to communicate this information verbally with the selling of one's design concept and graphically, with drawings such as plans, elevations, sections, details, perspectives, axonometric drawings, etc., and illustration such as furniture, lighting, color, materials, and finishes selections. The following is a recommended course of study for undergraduates.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEC 204	Meaning in Visual Arts ²	-	3
GEC 205	Innovations in Contemporary Environment ²	3	-
ART 110, 120	Introduction to Drawing I, II ²	3	3
ID 111	Elements of Interior Design ²	3	-
ID 112	Principles of Interior Design ²	-	3
ID 121	Basic Interior Design-Drawing I ²	3	-
ID 122	Basic Interior Design-Drawing II ²	-	3
		<u>15</u>	<u>15</u>
<u>Second Year*</u>		<u>Fall</u>	<u>Spring</u>
GED 107	Intermediate Algebra	-	3
GED 152, 153 GEE 107 or 201	Speech (select) ¹	3	-
or 236	Human Health and Well Being (select) ¹	2	-
GEE	Human Health and Well Being (Activity) ¹	-	2
VES 335	Basic Textiles	2	-
ID 142	Architectural Detailing ²	3	-
ID 222	Presentation ²	3	-
ID 234	Materials and Finishes ²	-	2
ID 242	Interior Architectural Detailing ²	-	3
ID 262, 363	History of Interior Design I, II ²	2	2
ID 351	Facility Programming I ²	-	3
		<u>15</u>	<u>15</u>

¹Required General Education courses. General Education courses other than those marked '1' are highly recommended for interior design majors.

²These courses are required for an Interior Design major. For specific information regarding the acceptability of a major requirement from a community college, you may contact the ID coordinator. A portfolio of work must be presented to, and approved by the ID coordinator for transfer credit.

*Transfer students should concentrate on General Education courses during the second year since more advanced major courses should be taken at SIUC. Because of the large number of laboratory/studio classes in interior design, the community college transfer student who has completed an associate degree may require up to three years additional study to complete the baccalaureate degree.

Third and Fourth Years

Education during the third and fourth years consists of design studios and selected courses in advanced interior design and architecture. Special emphasis is given toward departmental requirements and recommended elective courses. Third and fourth year interior design courses include ID 334, 383, 384, 406, 462, 471, 495 and ID studios 391, 392, 493 and 496.

JOURNALISM
(News Editorial)
(Advertising)
College of Communications and Fine Arts
(Bachelor of Science)

Walter B. Jaehnig, Director
Telephone - 618-536-3361
Communications Building-North Wing

Journalism courses are designed to combine rigorous grounding in liberal arts studies with professional preparation for careers in the media industries. Courses in the theory and practice of journalism open career opportunities in news-editorial and advertising positions on newspapers, magazines, industrial publications and other news media; in persuasive uses of communications in advertising and public relations; and in media research work.

Undergraduates are urged to enter the School of Journalism as freshmen in order to obtain the advantage of Journalism Advisement. Successful completion of a language skills exam and proficiency in typing is required (30 words per minute) to enter the first writing course: JRNL 309 or JRNL 310.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Studies (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152, 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	2	-
GEA/B/C	Additional required course	3	-
JRNL 300	Mass Media in Modern Society	-	3
Minor		-	3
Electives		3	3
		<u>14</u>	<u>15</u>

¹ See section on General Education for the Transfer Student.

Journalism As A Major

In addition to the General Education courses, the academic requirements for a Bachelor of Science degree in Journalism include 30-36 hours in journalism coursework as approved by the School, 26-29 hours of upperclass electives outside the area of journalism, and 15 hours in a minor area approved by the School.

Students at community colleges are encouraged to complete General Education courses and earn electives in areas of interest. It is required that students earn credit for courses in Journalism skills at SIUC.

The School of Journalism is accredited by the professional accrediting agency, the Accrediting Council on Education in Journalism and Mass Communications.

The advertising specialization is a broad, yet intensive selection of specialized courses preparing the student to enter a wide variety of fields including sales, copy writing, production, administration, retailing, and agency work.

The news-editorial specialization provides strong training in writing, reporting and editing with a wide range of electives that introduce students to the variety of positions available in the news industry.

Graduate degrees are available.

Representative First Job Titles: Advertising Agency Account Executive, Advertising Copywriter, Advertising Layout Artist, Advertising Production Director, Advertising Salesperson, Assignment Editor, Cable Communication Coordinator, Copy Editor, Editor, Feature Writer, Graphic Designer, Magazine Production and Design Specialist, Magazine Writer, Media Account Executive, Media Planner, Media Researcher, News Editor, Photographer, Newsletter Editor, Photo Editor, Public Affairs Reporter, Public Information Specialist, Public Relations Representative, Public Opinion Researcher, Reporter, Retail Advertising Director, Sports Reporter, Telecommunications Consultant.

LANGUAGE ARTS (ENGLISH AND READING)

College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-453-2239
Wham Building, Room 327

A major in language arts (English and reading) is offered through the Department of Curriculum Instruction and Media. The program is designed to meet the needs of students who wish to teach English language arts (including reading) at the junior/middle school level or who wish to teach high school students whose language skills are not up to high school level. The graduate of this program will be qualified to work with the language skills development which is crucial during early and middle adolescence.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB 114	American Government	-	3
GEC 122	Appreciation of Literature	3	-
GED 101	English Composition ²	3	-
GED 102	English Composition II ^{1,2}	-	3
GED 107	Intermediate Algebra	-	3
GED 153	Public Speaking ²	3	-
GEE 201	Healthful Living ²	-	2
GEE	Human Health & Well Being-activity (select) ^{1,2}	2	-
Electives		2	5
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 202	Introduction to Psychology ²	-	3
GEB 301	U.S. History	3	-
GEC 200	Oral Interpretation of Literature ³	3	-
Electives		6	6
		<u>15</u>	<u>12</u>

¹Refer to the section General Education for the Transfer Student.

²The following specific General Education courses are required for teacher certification (these courses may be completed during the freshman and sophomore years): GEB 114, Introduction to American Government and Politics; GEB 301, U.S. History; GEB 202, Introduction to Psychology; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). General Education science courses must include one laboratory class.

³Required for major.

LAW ENFORCEMENT
College of Technical Careers
(Associate of Applied Science)

Michael D. Moberly
Program Coordinator
Telephone - 618-453-7289
Technical Careers Building
Room 18E

The challenge put to law enforcement education is its ability to apply theoretical aspects of law, criminal behavior and policing to real life situations. The faculty of the law enforcement program meet this challenge by drawing upon their collective work experience in law enforcement to present instructional material and extra-curricular events for students that effectively bridges the gap between the classroom and the real world. Today law enforcement officers must prepare themselves through their educational experiences and training to respond to a variety of situations they may confront during the course of their duties.

Classroom experiences aimed at developing good human relations and communications skills in order to deal with people effectively and to be able to record and communicate facts accurately are important. Good decision making skills are also necessary for police to be able to think logically and quickly when called upon to do so.

The law enforcement program in conjunction with our campus student organization, Professional Law Enforcement Association, sponsors various events during the year to introduce students to a variety of policing and private security issues such as firearms, emergency driving techniques, corrections seminars and tours, crime investigation, suspect/vehicle stop and search techniques, institutional security and numerous guest speakers.

Students can readily receive their degree from this program in two years. Students who want to continue their law enforcement education at SIUC may do so by working toward a bachelor of science degree with all course credits being transferred.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 108	Sociological Perspective	3	-
GED 101	English Composition	3	-
CTC 102	Technical Report Writing	-	2
LE 103	Introduction to Criminal Justice	3	-
LE 105	Criminal Behavior	3	-
LE 108	Supervision in Criminal Justice	-	3
LE 115	Interpersonal Relations in Criminal Justice	3	-
LE 205	Criminal Investigation	-	3
LE 218	Introduction to Corrections	-	3
Elective		-	3
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	3	-
GEB 114	American Government and Politics	3	-
GED 153	Public Speaking	3	-
LE 209, 210	Criminal Law I and II	3	3
LE 221	Police Administration	3	-
LE 395	Internship in Criminal Justice Practice	-	9
LE Elective	Introduction to Security	3	-
LE Elective	Security Survey: Loss Prevention Appl.	-	3
		<u>18</u>	<u>15</u>

During the fourth semester of the program (or during the summer), students will serve an internship in which they work under supervision with a law enforcement agency in Illinois.

Provision is made in the program to accomodate working police officers who wish to attend part-time as well as transfer students.

A minimum of 62 credit hours is required for this program.

Representative First Job Titles: Police Officer, Detective, State Police Officer, Correctional Officer, Private Security Officer, Deputy Sheriff.

The undergraduate major in Linguistics gives you a solid introduction to the nature of language as a human activity. Linguistics deal with issues such as: How much of language is learned and how much is determined by the innate structure of the human mind? How and why do languages change? How and why do people talk differently in different parts of the country? Our department also specializes in applied linguistics which deals with the teaching of English as a Second Language. In addition, the methodology of linguistics has been adopted by fields as diverse as anthropology, law, psychology, and computer science, where linguists contribute to the design of speech synthesizers, computer speech understanding systems, and natural language processing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
FL	Foreign Language ²	4	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GED	Speech (select) ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
FL	Foreign Language Second Year ²	4	4
MATH or CS	Math or Computer Science ⁴	-	3
Electives ³		3	-
		<u>15</u>	<u>16</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, see the section, General Education for the Transfer Student.

²There is a foreign language requirement for native speakers of English: 1) one year of an uncommon or non-Western language or 2) two years of any foreign language. If the language in (2) were uncommon or non-Western, satisfying (2) would automatically satisfy (1). Students planning graduate study in linguistics should take three years of foreign language study. Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

³Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to fulfill Liberal Arts requirements (see College of Liberal Arts section).

⁴One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Representative First Job Titles: ESL Teacher, Computer Scientist, Industrial Psychologist, Archival Worker, Market Research Analyst, Legal Consultant.

MANAGEMENT

College of Business and Administration (COBA)
(Bachelor of Science)

Chairperson
Telephone 618-453-3307
Henry J. Rehn Hall, Room 215

The Department of Management prepares students for careers in both profit and non-profit organizations in such fields as business and industry, government, education, and health. The curriculum places emphasis on the development of knowledge and skills necessary for effective problem solving and decision making to achieve the goals of the organization and manage resources effectively.

The curriculum prepares students through a variety of disciplines and offers valuable knowledge, tools, and techniques that provide a broad exposure to the key function of management. The courses, designed to impart technical, technological, and human resources management skills, prepare students to manage modern organizations successfully. A choice of two specializations within the management major is available to students. They are Management and Entrepreneurship.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	-	3
*GED 152,153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	-	3
*ACCT 230	Managerial Accounting	3	-
*CS 212 or	Intro. to Computer Programming ³	-	3
CIP 229	Computing for Business Admin. ³		
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*FIN 270	Legal & Social Environment of Business ³	3	-
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		<u>15</u>	<u>15</u>

*Required course for a major in COBA.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

²ECON 214 or 215 counts toward GEB credit.

³Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Management major, the student will take upper level business courses which will prepare the student for an exciting career in the Management area. These courses include the remaining Core requirements, and 24 credits in the Management area.

Management As A Major

Neither minor nor foreign language required.

Graduate degrees available; MBA, Masters in Accountancy (M.Acc.), DBA.

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

The Department is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

See College of Business and Administration listing for their retention policy and the 40% rule.

The Society for the Advancement of Management in cooperation with the Department of Management annually sponsors a Career Day to acquaint students with opportunities in business and government.

Representative First Job Titles: Budget Administrator, Business Operations Analyst, Benefits Analyst, Community Relations Officer, Employee Relations Officer, Employment Interviewing Officer, Labor Relations Officer, Management Analyst, Manpower Planning Officer, Manpower Resources Education Officer, Organization Planner, Placement Assistant, Public Opinion Polls Officer, Public Relations Officer, Recruiting Officer, Wage-Salary Administrator, Workman's Compensation Officer, Budget Examiner, Claims and Benefits Examiner, Contract Negotiator, Credit Union Examiner, Management Representative, Management Supervisor.

MARKETING

College of Business and Administration (COBA)
(Bachelor of Science)

Dr. R. Clifton Andersen
Telephone 618-453-4341
Henry J. Rehn Hall, Room 229

Marketing consists of the performance of those activities associated with the flow of goods and services from producers to consumers and business users. The program is designed to provide the student with an understanding of the role of marketing in an economic system and in a business organization. Emphasis is upon the development of an analytical approach to the creative solution of marketing problems. Courses have been designed into a variety of sequences aimed at meeting the specific needs and interests of students. These are: 1) general marketing administration, 2) international marketing, 3) industrial marketing, 4) sales administration, 5) promotional administration, 6) physical distribution administration, and 7) retail administration.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science ¹	3	3
GEB	Social Science ¹	3	-
*GEB 202	Introduction to Psychology ¹	-	3
GEC	Humanities ¹	3	3
*GED 101	English Composition ¹	3	-
*GED 102	English Composition II ¹	-	3
*MATH 139	Finite Mathematics	3	-
*MATH 140	Short Course in Calculus	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>			
GEA	Science ¹	-	3
*GED 152, 153	Public Speaking or Interpersonal Comm. ¹	3	-
*ACCT 220	Financial Accounting	3	-
*ACCT 230	Managerial Accounting	-	3
*CS 212 or	Intro. to Computer Programming. ³		
CIP 229	Computing for Business Admin. ³	-	3
*ECON 214	Macro Economics ²	3	-
*ECON 215	Micro Economics ²	-	3
*FIN 270	Legal & Social Environment of Business ³	3	-
*MGMT/ECON 208	Economic and Business Statistics	3	-
*MGMT 202	Business Communications	-	3
		<u>15</u>	<u>15</u>

*Required course for a major in COBA.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, "General Education for the Transfer Student."

²ECON 214 or 215 counts toward GEB credit.

³Course will be approved by articulation agreement with each college.

Third and Fourth Years

As a declared Marketing major, the student will take upper level business courses which will prepare the student for an exciting career in the Marketing area. These courses include the remaining Core requirements, and 24 credits in the Marketing area.

Marketing As A Major

It is strongly recommended that the courses listed above be completed prior to the junior year. Many of these courses are prerequisites to later requirements.

Neither minor nor foreign language required.

Graduate degrees available: MBA, Masters in Accountancy (M.Acc.), DBA.

The Department is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

Flexibility is available due to a limited number of required courses. Emphasis is on developing a program geared to individual students' interests and background.

See College of Business and Administration listing for their retention policy and the 40% rule.

Representative First Job Titles: Marketing Assistant, Retail Manager, Consumer Marketing Area or Territorial Manager, Commercial/Industrial Marketing Representative, Sales Representative Trainee, Marketing Trainee, Market Analyst, Management Trainee, Food Service Sales Representative, Bond Representative, Benefits Analyst, Budget Accountant, Budget Administrator, Business and Economics Statistician, Business Planner, Controller, Management Analyst, Manufacturer's Representative, Market Research Analyst, Sales Manager, Product Manager, Operations Research Analyst, Credit Manager, Customer Services Officer, Public Relations Officer.

MATHEMATICS¹
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

A standard college algebra and trigonometry course is available as one course or as separate courses to incoming freshmen to prepare them for a three semester sequence in calculus and analytic geometry. Most mathematics students will take an introductory linear algebra course while completing the calculus. Then they will select junior level courses from those in algebraic structures, analysis, number theory, geometry, differential equations, and probability.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB 114	American Government ³	3	-
GEC	Humanities (select) ²	3	-
GED 101	English Composition ³	3	-
GED 102	English Composition II ^{2,3}	-	3
GEE 201	Healthful Living ³	-	2
MATH 111	Pre-Calculus ⁴	5	-
MATH 150	Calculus I	-	4
CS 202	Introduction to Computer Programming	-	3
		<u>17</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB 202	Introduction to Psychology ³	3	-
GEB 301	U.S. History ³	-	3
GEC	English Elective in Humanities (select) ^{2,3}	-	3
GEC	Humanities (select) ²	3	-
GED 153	Public Speaking ³	-	3
GEE	P.E. Activity	2	-
MATH 221	Introduction to Linear Algebra	-	3
MATH 250	Calculus II	4	-
MATH 251 or 305	Calculus III or Differential Equations	-	3
		<u>15</u>	<u>15</u>

¹See also the program under the College of Liberal Arts. The College of Science also offers a Bachelor of Science in Mathematics.

²Refer to the section General Education for the Transfer Student.

³The following courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; one additional English course (GEC, GED or departmental); Math 111, Pre-Calculus. At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). General Education science courses must include one laboratory class.

⁴Approved substitute for GED Math. Math 111 is not a requirement for the math major. Students may start with Math 150.

Mathematics As A Major

Foreign language is not required for the Bachelor of Science degree in Education.

It is recommended that the following courses be completed during the first two years of the student's study: Math 111, 150, 250, 251, 221, Computer Science 202.

For specific major requirements, see the Undergraduate Catalog.

MATHEMATICS*
College of Liberal Arts
(Bachelor of Arts)

Dr. Ron Kirk, Chairperson
Telephone - 618-453-5302
Neckers Building, Room 360

The Bachelor of Arts degree in mathematics is appropriate for those who want to combine mathematics with a minor or second major in computer science, or for those whose interests outside of mathematics tend toward the social sciences, business, psychology, law or the humanities. Students in this program take a secondary concentration of two or three courses in some field in which mathematics is applied, or a minor in some department in the College of Liberal Arts. The mathematical requirements for the Bachelor of Arts and Bachelor of Science degrees are the same.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	2	-
CS 202	Introduction to Computer Programming	-	3
MATH 150 & 250	Calculus I and II ²	4	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
FL	Foreign Language ³	4	4
MATH 221	Introduction to Linear Algebra	-	3
MATH 251	Calculus III	3	-
MATH or CS	Mathematics or Computer Science Elective	-	3
		<u>16</u>	<u>16</u>

*See also the programs (B.S.) under the College of Education and the College of Science.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Community college students should complete the calculus sequence at their community college.

³The College of Liberal Arts requires one year of a foreign language. One semester of this may be used as GEC humanities credit.

Mathematics As A Major

Mathematics is growing and changing. Exciting new problems appear each year, and the variety of career opportunities is constantly increasing. SIUC has the advantages of variety of coursework and highly qualified staff available at a large university, together with smaller classes and more personal attention than many large universities offer. Calculus classes here are taught by experienced professors and average about 30 to 35 students. Most upper division courses have 15 to 20 students. An honors calculus course is available to qualified students.

You and your mathematics faculty advisor will plan your advanced level course program together. One course from each of four areas will introduce you to the main branches of mathematics. Your selection of at least three additional courses will depend on your particular interests, which may be mathematical research, teaching, or applications in business, science and technology, statistics, actuarial science, or computer science. Mathematics can also be a good major for pre-medical and pre-law students.

For many mathematics students, we recommend a minor in computer science or even a double major in mathematics and computer science.

A full range of graduate programs is available in mathematics and related fields.

Representative First Job Titles: Systems Analyst, Actuarial Trainee, Mathematician, Operations Research Analyst, Statistician, Computing Analyst, Research Mathematician, Mathematical Programmer, Technical Sales Representative.

MATHEMATICS*
College of Science
(Bachelor of Science)

Dr. Ron Kirk, Chair
Dr. John Hooker, Undergraduate
Program Director
Telephone - 618-453-5302
Neckers Building, Room 360

The Bachelor of Science degree in mathematics combines mathematics with the science requirements of the College of Science to open the door to a surprising variety of interesting careers in industry, business, and the academic world.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ²	-	3
GEE	Human Health and Well Being (Activity) ²	1	1
Dept. Level	Biological Sciences ¹	3	3
CS 202	Computer Programming	-	3
MATH 150	Calculus I	4	-
MATH 250	Calculus II	-	4
		<hr/> 14	<hr/> 17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science (select) ²	-	3
GEC	Humanities (select) ²	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ²	-	2
Dept. Level	Physical Sciences ¹	3	3
FL	Foreign Language ³	4	4
MATH 221	Linear Algebra	-	3
MATH 251	Calculus III	3	-
		<hr/> 16	<hr/> 15

*See also the programs (B.A. and B.S.) under College of Liberal Arts and College of Education.

¹The College of Science requires six semester hours in departmental (not GEA) biological sciences, and six semester hours in departmental (not GEA) physical sciences. These courses also satisfy the science component of the General Education requirements (see approved substitution list).

²See section on General Education for the Transfer Student.

³The College of Science requires one year (8 semester hours) of foreign language. French, German, or Russian is recommended. One semester of foreign language will substitute as GEC humanities credit.

Mathematics As A Major

Mathematics is growing and changing. Exciting new problems appear each year, and the variety of career opportunities is constantly increasing. SIUC has the advantages of variety of coursework and highly qualified staff available at a large university, together with smaller classes and more personal attention than many large universities offer. Calculus classes here are taught by experienced professors and average about 30 to 35 students. Most upper division courses have 15 to 20 students. An honors calculus course is available to qualified students.

The student and the student's mathematics faculty advisor will plan the student's advanced level course program together. One course from each of four core areas will introduce the student to the main branches of mathematics. Selection of at least three additional courses will depend on the student's particular interests, which may be mathematical research, teaching, applications in business or science and technology, statistics, actuarial science, or computer science. Mathematics is also a good major for pre-medical and pre-law students.

For many mathematics students, a minor in computer science or a double major in mathematics and computer science is a good choice.

A full range of graduate programs is available in mathematics and related fields.

Representative First Job Titles: Systems Analyst, Actuarial Trainee, Cryptographer, Mathematician, Operations Research Analyst, Statistician, Computing Analyst, Technical Sales Representative, Marketing Analyst.

See also: Civil Engineering, Electrical Engineering, and Mining Engineering.

Mechanical Engineering is a broad-based engineering discipline. Mathematics, basic science, economics, and design principles are utilized to produce products and systems for the benefit of mankind.

The four year undergraduate program provides a balance of experience in thermal and mechanical systems and the opportunity for specialized design courses.

First Year		Fall	Spring
ENGR 102	Engineering Graphics	2	-
GEB	Social Sciences (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	3	3
GED 101	English Composition ^{1,2}	3	-
GED 102	English Composition II ^{1,2}	-	3
GEE	Human Health and Well Being (select) ¹	-	2
CHEM 222a,c	Intro. to Chemical Principles and Lab ³	4	3
MATH 150, 250	Calculus I & II ³	4	4
		16	18
Second Year		Fall	Spring
ENGR 222	Computational Methods for Engineers	2	-
ENGR 260a,b	Mechanics of Rigid Bodies (Statics&Dynamics)	2	3
GEA 115	Introductory Biology ^{1,2,4}	3	-
GEB	Social Studies (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	-	3
GED 153	Public Speaking ^{1,2}	3	-
MATH 251, 305	Calculus III and Differential Equations I	3	3
PHYS 205a,b	University Physics		
PHYS 255a,b	and Lab ³	4	4
		17	16

¹See General Education for the Transfer Student. Transfer students without a baccalaureate-oriented associate degree will be required to take some specific general education courses. It is recommended that such students contact the College of Engineering and Technology Advisement Office for information on approved general education courses.

²Due to accreditation standards, students transferring with a baccalaureate-oriented associate degree will need 16 sem. hours of Social Sciences and Humanities; eight or nine sem. hours of oral and written communications, and 18 sem. hours of basic science before graduation from SIUC. A 300 level Social Science or Humanities course must be taken at SIUC or at another senior level institution. This 300 level course must build on a discipline already completed. Because of this accreditation requirement, in most cases, a maximum of 13 sem. hours of Social Sciences and Humanities from a community college will be counted toward this 16 hour requirement.

³Substitutes for General Education requirements.

⁴This course is not required for students transferring with a baccalaureate-oriented associate degree and 18 sem. hours of Chemistry and Physics.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in Engineering used in determining the major grade point averages are courses with the prefix ENGR, CE, EE, EM, ME, and MNGE. This is part of the college's Retention Policy.

Transfer students from community colleges or other institutions should have strong backgrounds in the physical sciences, mathematics, social sciences, and humanities. Students are encouraged to complete specific freshman and sophomore course requirements which include six sem. hours of English Composition; three sem. hours of Speech, eight sem. hours of University Physics, seven sem. hours of Chemistry; 11-14 sem. hours of Math, including Calculus; two sem. hours of Analytical Mechanics (Statics); and three sem. hours of Graphics or Introduction to Engineering. Calculus is a prerequisite for most junior-level courses.

Representative First Job Titles: Mechanical Engineer, Plant Engineer, Product Development and Design Engineer, Product Application and Test Engineer, Sales, Patent Engineer, Sales Engineer, Quality Assurance Specialist.

Microbiology deals with the study of micro-organisms, including bacteria, viruses, protozoa, fungi, and yeasts, examining their morphology, classification, growth, reproduction, heredity, biochemistry, ecology, and their relationship to other living organisms including man. The following program of study prepares one for graduate study leading to advanced degrees or for laboratory or teaching positions after the bachelor's degree.

Opportunities for specialized training in microbial physiology, virology, immunology, genetics, biochemistry and industrial processes are available.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (Activity)	1	1
FL	Foreign Language ^{1,3}	4	4
CHEM 222a,b	Introduction to Chemical Principles ^{1,3}	4	4
MATH 108 & 109 or 111 or 140	College Algebra and Trigonometry or Calculus ^{1,3}	3 15	3 18
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
BIOL	Biology (select) ^{1,2}	-	3
BIOL 305	Genetics-Classical & Molecular	3	-
CHEM 344, 345, and 346, 347	Organic Chemistry and Lab	6	5
MICR 301	Principles of Microbiology	4	-
MICR 302	Molecular Biology	-	3
PHYS 203a,b and 253a,b	College Physics and Lab	4 17	4 17

¹ Approved substitutes for General Education.

² Any one of Biology 306, 307, 308, 309.

³ Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences.

Third and Fourth Years

The student fulfills remaining General Education requirements, and chooses electives in microbiology to match his or her professional interests. The Department of Microbiology offers specialty courses in microbial genetics, microbial physiology/biochemistry, medical microbiology, immunology, virology and bacterial diversity.

Microbiology As A Major

Opportunities for microbiologists with four years of university training are numerous and varied. Careers are available in such fields as 1) pharmaceutical industries involving the discovery and production of antibiotics and other therapeutic drugs, and the discovery, production and design of vaccines possibly effective even against cancer; 2) the food and beverage industries in areas such as research and development, microbial fermentations, and quality control; 3) clinical, veterinary and public health and university laboratories; 4) the exciting field of recombinant DNA and other areas of biotechnology based on microbiology. Biotechnology has applications in industry and pure research to make vaccines, hormones, and alter the genetic constitution of plants and animals. Teaching and research opportunities exist at the university level for the holder of the doctoral degree. A microbiologist planning a teaching career at the secondary school level should acquire a broad background in general biology. In addition to the academic career, high salaried positions are available in many local, state and federal agencies as well as in industry for the microbiologist with a good capacity for pure or applied research.

Representative First Job Titles: Laboratory Technician, Biostatistician, Embryologist, Genetics Research Technician, Serologist, Histologist, Cytologist, Parasitologist, Virologist, Microbiology Researcher, Wine Chemist, Fishery Bacteriologist, Quality Control Specialist, Biological Photography Staff, Manufacturer's Representative, Public Health Officer, Biology Teacher.

See also: Civil Engineering, Electrical Engineering, and Mechanical Engineering.
Mining Engineers engage in planning, design, development and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral and coal processing, material handling systems, mineral economics, mine health and safety engineering; operations research, and computer-aided mine design. Facilities include modern, well-equipped rock mechanics, mine ventilation and mineral processing laboratories.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
ENGR 102	Engineering Graphics	2	-
GEB	Social Sciences (select) ^{1,2}	-	3
GEC	Humanities (select) ^{1,2}	3	3
GED 101	English Composition ^{1,2}	3	-
GED 102	English Composition II ^{1,2}	-	3
GEE	Human Health and Well Being (select) ¹	-	2
CHEM 222a,c	Intro. to Chemical Principles and Lab ³	4	3
MATH 150, 250	Calculus I & II ³	4	4
		16	18
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
ENGR 222	Computational Methods for Engineers	2	-
ENGR 260a,b	Mechanics of Rigid Bodies (Statics&Dynamics)	2	3
GEA 115	Introductory Biology ^{1,2,4}	3	-
GEB	Social Studies (select) ^{1,2}	-	3
GED 153	Public Speaking ^{1,2}	3	-
GEOL 220	Physical Geology	-	3
MATH 251, 305	Calculus III and Differential Equations I	3	3
PHYS 205a,b	University Physics		
PHYS 255a,b	and Lab ³	4	4
		17	16

¹ See General Education for the Transfer Student. Transfer students without a baccalaureate-oriented associate degree will be required to take some specific general education courses. It is recommended that such students contact the College of Engineering and Technology Advisement Office for information on approved general education courses.

² Due to accreditation standards, students transferring with a baccalaureate-oriented associate degree will need 16 sem. hours of Social Sciences and Humanities; eight or nine sem. hours of oral and written communications, and 18 sem. hours of basic science before graduation from SIUC. A 300 level Social Science or Humanities course must be taken at SIUC or at another senior level institution. This 300 level course must build on a discipline already completed. Because of this accreditation requirement, in most cases, a maximum of 13 sem. hours of Social Sciences and Humanities from a community college will be counted toward this 16 hour requirement.

³ Substitutes for General Education requirements.

⁴ This course is not required for students transferring with a baccalaureate-oriented associate degree and 18 sem. hours of Chemistry and Physics.

To remain in the College, students are subject to the requirement of maintaining a 2.00 accumulative grade point average in all of their major courses. Major courses in engineering used in determining the major grade point averages are courses with the prefix ENGR, CE, EE, EM, ME, and MNGE. This is part of the college's Retention Policy.

Transfer students from community colleges or other institutions should have strong backgrounds in the physical sciences, mathematics, social sciences, and humanities. Students are encouraged to complete specific freshman and sophomore course requirements which include six sem. hours of English Composition; three sem. hours of Speech, eight sem. hours of University Physics, seven sem. hours of Chemistry; 11-14 sem. hours of Math, including Calculus; two sem. hours of Analytical Mechanics (Statics); and three sem. hours of Graphics or Introduction to Engineering. Calculus is a prerequisite for most junior-level courses.

Career and Employment Opportunities

Mining engineers may work in an engineering or management position for mining and exploration and construction companies, equipment manufacturing concerns, research organizations or government agencies. The coursework also provides strong preparation for further study at the graduate level. The average starting salary offered to our graduates compares favorably with national trends.

MORTUARY SCIENCE AND FUNERAL SERVICE

College of Technical Careers
(Associate in Applied Science)

George Poston
Program Coordinator
Telephone - 618-453-7214
Technical Careers Building
Room 18C

SIUC offers the only university affiliated Mortuary Science and Funeral Service program in the state of Illinois.

Licensing and qualification requirements vary from state to state since laws governing the profession are enacted at a state level. Licensure in one state does not assume automatic qualification in another but many state boards have some reciprocal agreements with other states.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology	3	-
GEB 202	Introduction to Psychology	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 153	Public Speaking	-	3
MSFS 101	Orientation to Funeral Service	3	-
MSFS 102	Restorative Art	4	-
MSFS 108	Funeral Service Psychology	-	3
SCR 208	Applied Law	-	3
CTC 120	Fiscal Aspects of Technical Careers	-	3
Elective	Health Education	-	2
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 106	Chemistry for Non-Science Majors	3	-
MSFS 22ta,b	Embalming Theory and Practice	4	-
MSFS 230	Mortuary Anatomy	4	-
MSFS 250a,b	Mortuary Management	4	4
MSFS 256	Introductory Microbiology	-	4
MSFS 257	Pathology	-	4
		<u>15</u>	<u>16</u>
		<u>Summer</u>	
MSFS 375a	Internship--Management	4	
MSFS 375b	Internship--Embalming	4	
MSFS 380	Funeral Service	2	
		<u>10</u>	

Mortuary Science As A Major

This program is designed to accommodate high school graduates as well as those who have first attended another college or university. High school graduates will complete the courses as listed above. Students transferring from other schools may receive transfer credits for general education courses. Many transfer students are able to complete the associate degree in a minimum of twelve months.

Applicants who desire to major in Mortuary Science and Funeral Service will be admitted to SIUC in the category Pre-Mortuary Science and Funeral Service. The applicant will be provided additional program application material.

The program is accredited by the American Board of Funeral Service Education. Graduates are eligible to write the National Board examination as given by the Conference of Funeral Service Examining Boards.

A unique feature of the curriculum is the summer internship. This ten week course, MSFS 375, takes place at a funeral home where the student is assigned on a full time basis. The purpose is to provide experience in the practical aspects of the profession. Following the internship, students return to campus for a seminar, MSFS 380, followed by writing the National Board examination and graduation.

Students have their own professional fraternity, Sigma Phi Sigma, with programs and activities planned by the members.

Some students elect to continue their education beyond the associate degree and work toward a baccalaureate degree.

Representative First Job Titles: Funeral Director Trainee, Embalmer Trainee.

MUSIC¹
College of Communications and Fine Arts
(Bachelor of Arts)

Dr. Robert Roubos, Director
 Telephone - 618-536-7505
 Altgeld Hall, Room 105

Charles Fligel, Advisor
 Telephone - 618-536-7505
 Altgeld Hall, Room 101

The Bachelor of Arts program is designed to provide a basis for various part time and musically related careers such as church music, popular music, private applied teaching, and occupations within the field of music industry and communications. Ordinarily, additional study, comparable to the Bachelor of Music curriculums offered in the College of Communications and Fine Arts, is necessary to qualify for a full time professional career in teaching, conducting, composition, or research.

The music major degree program is established in accordance with the published regulations of the National Association of Schools of Music, of which the School of Music is a member.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101, 102	English Composition; English Composition II	3	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	-	2
*MUS 140	Applied Music (principal instrument)	2	2
		<u>16</u>	<u>15</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB	Social Studies (select) ²	-	3
GEC	Humanities (select) ²	3	3
GED 152	Interpersonal Communication	-	3
GEE	Human Health and Well Being (select) ²	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 240	Applied Music (principal instrument)	2	2
		<u>16</u>	<u>17</u>

*Required courses for a major in Music.

¹See also Music Education in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 will count toward GEC requirements.

Third and Fourth Years

After completion of the first year core, each student's program is planned according to individual needs and goals. The Bachelor of Arts in Music requires a total of 40 semester hours of music courses.

Music As A Major

Credits in one's principal applied field are based on 1) private lessons with a member of the faculty, 2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and 3) recorded attendance each term at seven campus recitals or concerts, approved for the purposes by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Church Organist, Folk Music Specialist, Assistant to Music Director, Popular Music Specialist, Dance Band Musician.

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as an instrumentalist and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enroll for and receive two half-hour lessons per week for four credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GEC	Humanities (select) ²	-	3
GED 101, 102	English Composition; English Composition II	3	3
GEE	Human Health and Well Being (select) ²	2	-
*MUS 140	Applied Music (principal instrument)	2	2
*MUS 030a, b	Piano Class ³	1	1
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a, b	Aural Skills	1	1
*MUS 105a, b	Basic Harmony	3	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GEB	Social Sciences (select) ²	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	1	1
*MUS 240	Applied Music (principal instrument)	4	4
*MUS 030c, d	Class Piano ³	1	1
*MUS	Music Ensemble (see below)	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
		<u>14</u>	<u>15</u>

*Required courses for a major in music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 will count toward GEC requirements.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Classical Music Specialist, Symphony Orchestra Artist, Opera Artist, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Brass Instruments Specialist, Woodwinds Instruments Specialist, Church Organist.

MUSIC¹
(Jazz Performance)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-536-7505
Altgeld Hall, Room 105

Charles Fligel, Advisor
Telephone - 618-536-7505
Altgeld Hall, Room 101

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as an instrumentalist and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enroll for and receive two half-hour lessons per week for four credits per term in applied music.

First Year		Fall	Spring
GEA	Science (select) ²	-	3
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
*MUS 140	Applied Music (principal instrument)	2	2
*MUS 030	Piano Class ³	1	1
*MUS	Ensemble	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a	Aural Skills	1	1
*MUS 105a	Basic Harmony	3	3
*MUS 331	Jazz Improvisation	1	1
		14	15
Second Year		Fall	Spring
GEA	Science (select) ²	-	3
GEB	Social Sciences (select) ²	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	3	-
*MUS 240	Applied Music (principal instrumental)	4	4
*MUS 030c	Piano Class ²	1	-
*MUS 030d	Piano Class (Jazz section) ³	-	1
*MUS	Ensemble	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Counterpoint	-	2
*MUS 331	Jazz Improvisation	1	1
		17	15

*Required courses for a major in music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.
²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 will count toward GEC requirements.
³Students with piano backgrounds may waiver part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major
All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Jazz Music Specialist, Jazz Band Artist, Jazz Music Conductor, Jazz Soloist, Studio Musician, Private Jazz Instructor, Jazz Composer and/or Arranger, Jazz Historian, and Jazz Theorist.

MUSIC¹
 (Keyboard Performance)
 College of Communications and Fine Arts
 (Bachelor of Music)

Dr. Robert Roubos, Director
 Telephone - 618-536-7505
 Altgeld Hall, Room 105

Charles Fligel, Advisor
 Telephone - 618-536-7505
 Altgeld Hall, Room 101

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a keyboard performer and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enroll for and receive two half-hour lessons per week for four credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB	Social Studies (select) ²	-	3
GED 101, 102	English Composition; English Composition II	3	3
*MUS	Major Ensemble (see below)	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	1
*MUS 140	Applied Music (principal instrument)	2	2
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 107	Intermediate Algebra	-	3
GED 152	Interpersonal Communications	3	-
GEE	Human Health and Well Being (select) ²	-	2
*MUS	Music Ensemble (see below)	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
*MUS 240	Applied Music (principal instrument)	4	4
		<u>15</u>	<u>15</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 will count toward GEC requirements.

Music As A Major

Credits in one's principal applied field are based on 1) private lessons with a member of the faculty, 2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and 3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Classical Music Specialist, Symphony Orchestra Artist, Solo Performer, Opera Artist, Music Conductor, Instrumental Conductor, Instrumental Soloist, Choral Group Artist, Strings Instruments Specialist, Woodwinds Instruments Specialist, Church Organist.

MUSIC
 (Music Business)
 College of Communications and Fine Arts
 (Bachelor of Arts)

Dr. Robert Roubos, Director
 Telephone - 618-536-7505
 Altgeld Hall, Room 105

Charles Fligel, Advisor
 Telephone - 618-536-7505
 Altgeld Hall, Room 101

One of the newer options in the School of Music is the Music Business specialization. This program is designed for students planning careers in business and aspects of the music profession other than performance, education, composition, or history-literature. Beginning with the second year, students take courses not only in music but also in accounting, administrative sciences, economics, finance, and marketing.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101	Conceptual Insights into Modern Communications Systems ³	3	-
GED 101, 102	English Composition; English Composition II	3	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ²	2	1
ECON 215	Introduction to Microeconomics ¹	-	3
MUS	Major Ensemble ⁴	1	1
MUS 040-240	Applied Music (Principal instrument) ⁴	1	1
MUS 102	Survey of Music Literature ^{1,4}	2	1
MUS 104 a,b	Aural Skills ⁴	1	1
MUS 105 a,b	Basic Harmony ^{1,4}	3	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB	Social Science (select) ²	-	3
GEC	Humanities (select) ²	3	3
GED 152 or 153	Interpersonal Communications or Public Speaking	-	3
GEE	Human Health and Well Being (select) ²	1	-
ACCT 220, 230	Principles of Accounting I, II ⁴	3	3
MUS 030	Piano Class ⁴	1	1
MUS 031	Voice Class	1	-
MUS 032, 033, 032, 035	String, Woodwind, Bass and Percussion Techniques	2	2
MUS 040-240	Applied Music (principal instrument)	1	1
MUS	Major Ensemble ⁴	1	1
		<u>16</u>	<u>17</u>

¹ Approved substitutes for General Education.

² See Section on General Education for transfer students.

³ Recommended but not required by major.

⁴ Required by music major, music business specialization. Students who plan to transfer from community colleges with an associate's degree should complete comparable music courses in order to avoid spending extra time pursuing the bachelor's degree.

Music As A Major

Credits in one's principal applied field are based on 1) private lessons with a member of the faculty, 2) weekly participations in Studio Hour (Mondays at 10:00 a.m.), and 3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011 Marching Salukis, 013 Symphonic Band, 014 Concert Wind Ensemble, 017 Symphony, 020 University Chorus, 021 SIU Chorale, or 022 University Choir.

Representative First Job Titles: Music Marketing Specialist, Audio-Marketing, Management Trainee for Recording Studio, Fund Raiser for Opera Company, Instrument Sales, Management Agency Specialist.

MUSIC¹
(Music Theory-Composition)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-536-7505
Altgeld Hall, Room 105

Charles Fligel, Advisor
Telephone - 618-536-7505
Altgeld Hall, Room 101

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a musical composer and/or college teacher of music theory-composition.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GEC	Humanities (select) ²	-	3
GED 101, 102	English Composition; English Composition II	3	3
GEE	Human Health and Well Being (select) ²	2	-
*MUS	Major Ensemble (see below)	1	1
*MUS 030a,b	Class Piano ³	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 140	Applied Music (principal instrument)	2	2
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEC	Humanities (select) ²	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	1	1
*MUS 030c,d	Class Piano ³	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
*MUS 240	Applied Music (principal instrument)	2	2
*MUS 280	Beginning Composition	2	2
		<u>16</u>	<u>14</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

Credits in one's principal applied field are based on 1) private lessons with a member of the faculty, 2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and 3) recorded attendance each term at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Classical Music Specialist, Composer, Arranger, Music Theory Specialist.

MUSIC¹
(Piano Pedagogy)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-536-7505
Altgeld Hall, Room 105

Charles Fligel, Advisor
Telephone - 618-536-7505
Altgeld Hall, Room 101

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a pianist and/or applied piano teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enroll for and receive two half-hour lessons per week for 4 credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB	Social Sciences (select) ²	-	3
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
*MUS 140Q	Applied Piano	2	2
*MUS 030a,b	Seminar	1	1
*MUS	Ensemble	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a	Aural Skills	1	1
*MUS 105a	Basic Harmony	3	3
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GED 107	Intermediate Algebra	3	-
GED 152	Speech	3	-
GEE	Human Health and Well Being (select) ²	-	2
*MUS 240	Applied Music	4	4
*MUS 030c,d	Seminar	1	1
*MUS 040Q	Keyboard Musicianship	-	2
*MUS	Ensemble	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Counterpoint	-	2
		<u>16</u>	<u>15</u>

*Required courses for a major in music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 will count toward GEC requirements.

Music As A Major

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Private Applied Piano Instructor, Classroom Piano Teacher, Piano Soloist, Piano Accompanist, Symphony Orchestra Artist, Composer/Arranger, and Church Pianist.

MUSIC¹
(Vocal Performance)
College of Communications and Fine Arts
(Bachelor of Music)

Dr. Robert Roubos, Director
Telephone - 618-536-7505
Altgeld Hall, Room 105

Charles Fligel, Advisor
Telephone - 618-536-7505
Altgeld Hall, Room 101

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

The following illustrates the course of study to be followed during the first two years by those intending to pursue a career as a singer and/or private applied teacher. One wishing to attempt this specialization should, before the sophomore year, secure approval by the appropriate applied jury, and thereafter enroll for and receive two half-hour lessons per week for four credits per term in applied music.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101, 102	English Composition; English Composition II	3	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ²	2	1
*MUS	Major Ensemble (see below)	1	1
*MUS 030a,b	Piano Class ³	1	1
*MUS 102	Survey of Music Literature	2	-
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 140P	Applied Music (voice)	2	2
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	-	3
GEE	Human Health and Well Being (select) ²	1	-
*FOR LANG	French or German	4	4
*MUS	Major Ensemble (see below)	1	1
*MUS 030c,d	Piano Class ³	1	1
*MUS 204	Advanced Aural Skills	1	-
*MUS 205	Advanced Harmony	3	-
*MUS 207	Contrapuntal Techniques	-	2
*MUS 240P	Applied Music (voice)	4	4
		<u>15</u>	<u>15</u>

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of the School of Music well in advance to determine comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music Education is also available in the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student. Music 102-2 and the second semester of foreign language count toward GEC requirements.

³Students with piano backgrounds may waive part or all of the piano class requirement, as justified by a proficiency examination.

Music As A Major

Credits in one's principal applied field are based on 1) private lessons with a member of the faculty, 2) weekly participation in Studio Hour (Mondays at 10:00 a.m.), and 3) recorded attendance each term at sever campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant.

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011-Marching Salukis, 013-Symphonic Band, 014-Concert Wind Ensemble, 017-Symphony, 020-University Chorus, 021-SIU Chorale, or 022-University Choir.

Representative First Job Titles: Popular Music Specialist, Classical Music Specialist, Television Artist, Opera Arts, Folk Music Specialist, Choral Group Artist, Assistant to Music Director, Church Choirmaster, Music Librarian.

MUSIC EDUCATION¹
 (Music Education - Instrumental or Choral)
 College of Education
 (Bachelor of Science)
 College of Communications and Fine Arts
 (Bachelor of Music)

Dr. Robert Roubos, Director
 School of Music
 Telephone - 618-453-2263
 Altgeld Hall, Room 105

Jacquelyn Bailey
 Chief Academic Advisor
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

The School of Music offers programs to prepare students for careers in musical performance, conducting, composition, teaching, research, and related areas in the music industry. It is assumed that students planning one of these careers will have had extensive pre-university experience in performing with school groups and/or as soloist, basic music reading ability, strong sensitivity to music, and a desire to communicate it to others.

First Year		Fall	Spring
GEA	Science (select) ²	3	3
GEB	Social Science (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ²	-	3
GEE 201	Healthful Living	2	-
*MUS 030a,b	Piano Class ³	1	1
*MUS 102	Survey of Music Literature	-	2
*MUS 104a,b	Aural Skills	1	1
*MUS 105a,b	Basic Harmony	3	3
*MUS 140	Applied Music (principal instrument)	2	2
*MUS	Major Ensemble (see below)	1	1
		16	19
Second Year		Fall	Spring
GEA	Science (select) ²	3	-
GEB 202	Introduction to Psychology	-	3
GEB 114	American Government	-	3
GEB 301	U.S. History	3	-
GEC	English Elective in Humanities	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being - Activity	2	-
*MUS 034, 035	Brass Class; WW Class (for Instrumental Music)	1	2
or MUS 030a,b	Piano Class ³ (for choral Music Education)	(1)	(1)
*MUS 204 & 205	Advanced Aural Skills	4	-
*MUS 240	Applied Music (principal instrument)	2	2
*MUS	Major Ensemble (see below)	1	1
		16 (17)	20 (21)

*Required courses for a major in Music. Students who intend to transfer with an associate's degree from a community college should contact the Director of Music well in advance to determine the comparability of music classes and to avoid spending additional time completing the bachelor's degree.

¹Music education curriculums are available in both the College of Communication and Fine Arts and the College of Education.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³Students with piano background may waive part or all of the piano class requirement, as justified by a proficiency examination.

The following courses are required for Teacher Certification: GEB 202, Introduction to Psychology; GEB 114; GEB 301; GED 101; GED 102; GED Speech; GEE 201; plus one additional English course from GEC, GED or departmental. At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

Music As A Major

Students interested in this specialization should become aware of the requirements for entering the Teacher Education Program (explained in another section of this text).

All freshmen and sophomores pursuing a baccalaureate degree program in music must maintain satisfactory membership each term in residence, in one of the following: Music 011, Marching Salukis; Music 013, Symphonic Band; 014, Concert Wind Ensemble; 017, Symphony; 020, University Chorus; 021, SIU Chorale; or 022, University Choir.

Recent developments in office systems and related technologies have resulted in many new career opportunities for administrative personnel with enhanced general office skills or specific training in the medical, legal or court reporting fields. Both men and women trained in this program will find rewarding careers in these diverse fields. Advisory committees participate in discussions and make recommendations regarding appropriate course content. Coursework is designed to improve keyboarding skills, computer literacy, English language usage, office procedure competency, and document production techniques. All students must complete the general requirements and then the requirements in the specialization area chosen: Administrative Assistant, Legal Office Assistant, Medical Office Assistant or Court and Conference Reporting.

Office Systems and Specialties--General Requirements

General requirements for all Office Systems and Specialties students are as follows:

GED 101, 102 (6)	English Composition I and II
CTC 101 (3)	Business Communications
OSS 111 (3)	Beginning Keyboarding
OSS 112 (3)	Intermediate Keyboarding
OSS 113 (3)	Advanced Keyboarding
OSS 114 (3)	Office Software Applications
OSS 208 (3)	Applied Law for Technical Careers I
OSS 209 (3)	Applied Law for Technical Careers II

Additional requirements in the Administrative Assistant specialization are:

GED 152 (3) or 153 (3)	Interpersonal Communication or Public Speaking
CTC 120 (3)	Fiscal Aspects of Technical Careers
OSS 107 (2)	Filing and Records Systems
OSS 109 (3)	Calculating Numerical Information
OSS 118 (3)	Introduction to Machine Transcription
OSS 140 (3)	Word Processing Concepts
OSS 205 (2)	Office Supervision and Management
OSS 233 (3)	Administrative Support Procedures
OSS 290 (4)	Cooperative Office Experience

and courses in either the shorthand or non-shorthand option:

Shorthand Option:

OSS 131 (4)	Beginning Shorthand
OSS 132 (4)	Intermediate Shorthand
OSS 232 (3)	Administrative Shorthand

Non-Shorthand Option:

OSS 240 (3)	Word Processing Applications
OSS 241 (3)	Advanced Office Software Applications
CIP 109 (3)	Information Processing Concepts
Elective (3)	Approved by advisor

Additional requirements in the Legal Office Assistant specialization are:

GED 152 (3) or 153 (3)	Interpersonal Communication or Public Speaking
CTC 120 (3)	Fiscal Aspects of Technical Careers
OSS 131 (4)	Beginning Shorthand (or Machine Shorthand)
OSS 132 (4)	Intermediate Shorthand (or Machine Shorthand)
OSS 290 (4)	Cooperative Office Experience

and 20 credit hours from the following:

OSS 107 (2)	Filing and Records Systems
OSS 109 (3)	Calculating Numerical Information
OSS 118 (3)	Introduction to Machine Transcription
OSS 182 (3)	Legal Terminology and Documents
OSS 220 (3)	Legal Document Production
OSS 221 (3)	Legal Terminology/Dictation and Transcription
OSS 223 (3)	Legal Administrative Support Procedures
OSS 233 (3)	Administrative Support Procedures

NOTE: Persons completing the Legal Office Assistant specialization are eligible to apply and transfer, under the Capstone Program, into the Paralegal Studies (bachelor's degree) program in the SIUC College of Liberal Arts.

Additional requirements in the Medical Office Assistant specialization area are:

GED 152 (3) or 153 (3)	Interpersonal Communication or Public Speaking
CTC 120 (3)	Fiscal Aspects of Technical Careers
AHC 141 (4)	Anatomy and Physiology
OSS 107 (2)	Filing and Records System
OSS 109 (3)	Calculating Numerical Information
OSS 118 (3)	Introduction to Machine Transcription
OSS 261 (3)	Medical Terminology, Dictation, and Transcription I
OSS 262 (3)	Medical Terminology, Dictation, and Transcription II
OSS 263 (3)	Medical Administrative Support Procedures
OSS 264 (3)	Health Insurance Processing
OSS 290 (4)	Cooperative Office Experience
Elective (3)	Approved by advisor

Additional requirements in the Court and Conference Reporting specialization area are:

AHC 141 (4)	Anatomy and Physiology
OSS 180 (1)	Introduction to Court Reporting
OSS 182 (3)	Legal Terminology and Documents
OSS 186 (4)	Basic Machine Shorthand
OSS 187 (4)	Advanced Machine Shorthand
OSS 188 (3)	Court Transcript Preparation
OSS 261 (3)	Medical Terminology, Dictation and Transcription I
OSS 281 (3)	Legal Testimony I
OSS 282 (3)	Literary/Medical
OSS 283 (3)	Legal Testimony II
OSS 284 (3)	Literary/Legal I
OSS 385 (3)	Legal Testimony III
OSS 386 (3)	Literary/Legal II
OSS 388 (3)	Court Reporting Procedures
OSS 389 (3)	Court Practicum

NOTE: Students entering court reporting must be able to type 30 words per minute. Good language skills are highly desirable. Students are required to purchase a shorthand machine and have the machine available to them the first day of classes and thereafter. This specialization includes training in computer aided transcription which enables a court reporter to more quickly prepare transcripts. Court and conference reporting requires attendance at the summer session between the two academic years of the normal associate degree program. This program includes a minimum of 40 hours of courtroom experience.

Minor in Office Systems and Specialties (for students with a major in Spanish):

This minor is intended for students with a major in Spanish who wish to train as bilingual office assistants.

For those skilled in the office support areas of keyboarding, shorthand, and transcription, the minor requirements are:

OSS 107 (2)	Filing and Records Systems
OSS 109 (3)	Calculating Numerical Information
OSS 205 (2)	Office Supervision
OSS 208 (3)	Applied Law for Technical Careers I
OSS 232 (3)	Administrative Shorthand
OSS 233 (3)	Administrative Support Procedures
OSS 290 (4)	Cooperative Office Experience
CTC 101	Business Communications
OSS Electives (6-10)	Approved by advisor

For those unskilled in shorthand, keyboarding, and transcription, the minor requirements include the courses listed above and:

OSS 111 (3)	Beginning Keyboarding
OSS 112 (3)	Intermediate Keyboarding
OSS 113 (3)	Advanced Keyboarding
OSS 114 (3)	Office Software Applications
OSS 118 (3)	Introduction to Machine Transcription
OSS 131 (4)	Beginning Shorthand
OSS 132 (4)	Intermediate Shorthand

PARALEGAL STUDIES FOR LEGAL ASSISTANTS

College of Liberal Arts
(Bachelor of Science)

Dr. M. Browning Carrott
Director
Telephone - 618-453-4391
Faner Hall, Room 3280

The Paralegal Studies Program, leading to a B.S. degree in Paralegal Studies in the College of Liberal Arts, will prepare the graduate to function as a paraprofessional in the legal profession and as a legal assistant, whether in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy, as well as in curriculum content and format, the Paralegal Studies Program follows the lead of the American Bar Association Special Committee on Legal Assistants in its "Proposed Curriculum for the Training of Law Office Personnel".

The program has two components:

1. A core of legal specialty courses and administration related courses designed to provide career specificity and professional competency.
2. A range of social science, humanities, and communication skills courses designed to provide a spirit of inquiry and a depth of vision of the various contexts within which the paralegal's professional life will take place.

In addition, the student must meet all University requirements as well as appropriate College of Liberal Arts requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	3	-
GEB 212	Intro. to American Government and Politics ^{1,2}	-	3
GEC	Humanities (select)	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra ¹	-	3
FL	Foreign Language (select) ⁴	4	4
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Studies (select) ¹	3	-
GEC	Humanities (select) ¹	3	-
GED 152 or	Interpersonal Communication ^{1,2} or		
GED 153	Public Speaking ^{1,2}	-	3
GEE	Human Health and Well Being ¹	2	2
ACCT	Accounting ³	3	-
CIP 109 or	Computer Information Processing or		
CS 102	Computers in Society	-	3
ENGL 290	Intermediate Expository Writing ^{3,5}	-	3
SCR 220	Legal Documents Production	-	4
		<u>14</u>	<u>15</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Recommended but not required for major.

³Required by the major.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit after the full year is completed.

⁵Computer Science 102 and English 290 may be used toward partial fulfillment of the Liberal Arts requirements.

Representative First Job Titles: Legal Assistant, Paralegal.

PHILOSOPHY

College of Liberal Arts
(Bachelor of Arts)

Dr. Elizabeth R. Eames
Chairperson
Telephone - 618-536-6641
Faner Building, Room 3065

The Philosophy Department offers a broad range of courses covering the areas of ethics, aesthetics, logic, metaphysics, the history of both Western and Oriental philosophy, as well as art, education, history, and religion.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	3
GEC 102 or 208	Problems in Philosophy or Elementary Logic ²	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ¹	2	2
MATH or CS	Mathematics or Computer Science ³	-	3
		<u>14</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	-
GEC 104 or 213	Moral Decision or E. Asian Civilization	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
ENGL COMP ³	English Composition (above 100 level)	-	3
FL	Foreign Language ⁴	4	4
PHIL 304	Ancient Philosophy ⁵	3	-
PHIL 305	Modern Philosophy ⁵	-	3
Electives ⁶		-	3
		<u>16</u>	<u>16</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²No more than two courses or six hours on the 100 and 200 level will count toward the major.

³One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁵Required course for a major in Philosophy.

⁶Elective hours should be used to explore areas of interest and enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Philosophy As A Major

The program in philosophy is an excellent background for future work in law schools, seminaries, government service and other professional areas, as well as graduate school. The Department maintains its own advisement system to help the student design a program which best suits his or her interests and needs. The Honors Program in Philosophy provides students a chance to participate in seminars on a variety of topics.

Representative First Job Titles: Researcher, Minister, Technical Writer, Community Relations, Employee Relations, Grievances Specialist, Public Relations, Publications Officer, Alcoholism & Drug Addiction Researcher, Archival Worker, Museum Curator, Public Information Specialist, Mediator, Civic Reform Studies Specialist, Sales Trainee, Delinquency Prevention Specialist, Group Interaction Studies Specialist, Morale Studies Specialist, Public Health Investigator, Motivational Researcher, Librarian.

PHOTOGRAPHIC PRODUCTION TECHNOLOGY
College of Technical Careers
(Associate in Applied Science)

Robert White
Program Coordinator
Telephone - 618-453-8835
Blue Barracks

The Photographic Production Technology program is a two-year Associate Degree program within the College of Technical Careers.

Served by an advisory committee of professionals active in the photographic and photo-finishing industry, the program is designed to prepare students for careers in industrial, commercial and private photography, and photofinishing organizations.

Through active involvement in professional organizations, Photo Marketing Association International and Professional Photographers of America, the techniques and processes included in the instructional program are current and consistent with industrial needs.

Students will be involved in photographic processes and techniques in lecture/laboratory sessions, tour industrial and commercial installations, and be involved in actual production needs of the University's Photographic Services division which is operated by the Photographic Production Technology program.

During the two-year program, students will be involved with all facets of photography and photo finishing. Students should expect to spend approximately \$750 for materials and chemicals. In addition, each student is to provide their own fully-adjustable camera. Second year students complete two semesters of photography and photofinishing production internship experience at University Photographic Services.

Some of the advantages of the program are the diversity of actual photographic assignments and photofinishing production assignments to be performed meeting the needs of a major university community, and the flexibility which it provides in career opportunities. A bachelor's degree program through the College of Technical Careers is also available for those completing the associate degree.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 106	Chemistry for Non-Science Majors	3	-
GED 101	English Composition	-	3
PPT 111	Photo Processing I	4	-
PPT 113	Photo Processing II	4	-
PPT 115	Photo Processing Equipment	4	-
PPT 209	Graphics for Photography	-	4
PPT 211	Photo Processing III	-	6
SCR 100	Typewriting	-	3
CTC 105a	Technical Mathematics	2	-
		17	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 211	Contemporary Economics	-	3
GED 153	Public Speaking	-	3
CIP 109	Introduction to Information Processing	3	-
PPT 215	Photo Processing IV	6	-
PPT 221	Photo Processing V	6	-
PPT 251a	Photo Lab Mgt. (lecture)	-	3
PPT 251b	Photo Lab Mgt. (lab)	-	6
		15	15

Total of 63 semester hours.

Core courses (9-100 + 200 level courses, 43 hours)
Supportive courses (7 general education, 20 hours)

Photographic Production Technology As A Major

The associate degree program can be completed in two academic years at SIUC or in combination with community college or other acceptable educational experiences.

PHYSICAL EDUCATION
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Chairperson
Telephone - 618-536-2431
Davies Gymnasium, Room 106

The concentration is intended to qualify young people for positions as teachers, coaches, or specialists in public and private elementary or secondary schools, colleges, and universities as well as other social agencies which promote physical activity programs. Courses have been designed to meet the requirements of state departments of education and other agencies which have adopted professional standards.

Complete and integrated experience in teaching physical education and assisting in coaching under qualified supervisors is provided in the cooperating schools of the area. Added experiences are gained through membership in the Club; membership in professional associations, participation on intramural teams; assisting in service class testing; professional journals; and working with recreational and school groups in teaching techniques of various activities.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology	3	-
GEB 202	Introduction to Psychology ²	3	-
GEB 301	U.S. History ²	-	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ^{1,2}	-	3
GED 107	Intermediate Algebra	-	3
GEE 201	Healthful Living ²	2	-
Electives		<u>1</u>	<u>4</u>
		15	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114	American Government ²	3	-
GEC	English Elective in Humanities (required) ²	-	3
GED 153	Public Speaking ²	2	-
GEE	Elective	-	2
PE	Electives	7	4
PHSL	Physiology ³	-	3
		<u>15</u>	<u>15</u>

¹ Refer to the section General Education for Transfer Students.

² The following courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government; GEB 301, U.S. History; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

³ A course is physiology approved by the department.

Physical Education As A Major

GPA 2.50 minimum for Teacher Education Program.

A secondary concentration (the student may select the area) is recommended.

Refer to the Undergraduate Catalog for specific major requirements.

Minors are available in Aquatics, Athletic Training, and Coaching.

PHYSICAL EDUCATION
Athletic Training Specialization
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Chairperson
Physical Education
Telephone - 618-536-2431
Davies Gymnasium, Room 106

The Athletic Training program is designed to train students to provide exemplary first-aid care for student-athletes, and administer rehabilitation, therapeutic treatment, and preventative conditioning programs under the supervision of a physician. This program prepares graduates for careers as Athletic Trainers in public schools, colleges and private and industrial settings.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101	Conceptual Insights into Modern Communication Systems	3	-
GEB 202	Introduction to Psychology	-	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition	3	-
GED 102	English Composition II ³	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (Activity)	-	2
CHEM 115	Chemistry	-	3
F&N 215	Introduction to Nutrition	3	-
HED 334	First Aid	-	3
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Introductory Zoology	4	-
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
GED 153	Public Speaking	3	-
GEE 201	Healthful Living ³	-	2
PHSL 208 & 209	Physiology (including Lab) ²	-	4
GEE 236	Nutritional Ecology	2	-
	Elective	-	3
		<u>15</u>	<u>15</u>

¹ Refer to the section General Education for the Transfer Student.

² A course in physiology approved by the department.

³ Required for this major.

Physical Education Athletic Training Specialization

Refer to the Undergraduate Catalog for specific major requirements.

Major GPA required is 2.50.

Students interested in either the athletic training major or minor should apply in the Physical Education Department in Davies Gym. Enrollment is limited.

PHYSICAL EDUCATION

Exercise Science and Physical Fitness
Specialization
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Chairperson
Physical Education
Telephone - 618-536-2431
Davies Gymnasium, Room 106

This program is designed for students who wish to direct physical fitness programs in private, industrial and public settings. Preparation in this program enables the graduate to assess components of adult fitness, design individual exercise programs for the development and maintenance of physical fitness, and manage a physical fitness program. Graduates will have the foundation for continued study at the graduate level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Zoology	4	-
GEB 202	Introduction to Psychology	-	3
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	4
GEE 107 or 201 or 236	Human Health and Well Being (select)	2	-
PE	Electives	1	5
		16	15
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	3
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (Activity)	-	2
PE	Elective	2	-
PHSL 208 & 209	Principles of Physiology and Lab	4	-
ACCT 210	Accounting Principles or	-	3
or MGMT 170	Introduction to Business	-	3
CHEM 140a,b	Chemistry	3	3
		15	14

¹Refer to the section General Education for the Transfer Student.

Physical Education - Exercise Science and Physical Fitness Specialization

Refer to the Undergraduate Catalog for specific requirements.

PHYSICAL THERAPIST ASSISTANT
College of Technical Careers
(Associate in Applied Science)

C. Dale Pape
Program Coordinator
Telephone - 618-453-2361
Wham Education Building, Room 141

The Health Careers Council of Illinois reports that the field of physical therapy is one of the five most critical areas in which a manpower shortage exists. There are growing demands for physical therapy services in hospitals, extended care and nursing home facilities, and in private practices. The nation's concern and interest in improving our health care delivery system to the entire population should continue to provide opportunities for skilled workers in this field.

The physical therapist assistant is a skilled technician who works within the physical therapy service, which is under the direction of a physical therapist. The assistant is responsible to and supervised by the physical therapist (PT).

A minimum of 72 credit hours is required for the associate degree.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Introductory Zoology	4	-
GEB 202	Introduction to Psychology	-	3
GED 101	English Composition	3	-
GED 152	Interpersonal Communication	-	2
AHC 105	Medical Terminology	2	-
PHSL 208, 209	Physiology	-	4
PHSL 300	Human Anatomy	-	3
PTH 100	Physical Therapy Orientation	2	-
PTH 113	Physical Agents I (10 weeks)	1.5	-
PTH 207	Massage (6 weeks)	1.5	-
PTH 202	Physical Rehabilitative Techniques	-	2
PTH 204	Practicum I	-	2
		<u>14</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 101	Insights into Modern Communications Systems	3	-
HED 334	Standard First Aid	3	-
PE 302	Kinesiology of Normal & Pathological Conditions	2	-
PE 320	Physiological Bases of Human Movement	-	3
PE 325 or 326	Training Room Techniques or Emergency Care & Prevention	-	2 (3)
PSYC 301, 303, 304 or 305	Psychology	-	3
PTH 203	Pathology	2	-
PTH 205	Physical Therapy Science	-	2
PTH 208, 209	Therapeutic Exercise I & II	3	3
PTH 213	Physical Agents II	3	-
PTH 214	Practicum II	-	3
		<u>16</u>	<u>16-17</u>
		<u>Summer</u>	
PTH 321a,b	Clinical Internship	8	
PTH 322	Clinical Seminar	2	
		<u>10</u>	

Physical Therapist Assistant As A Major

The student should expect to spend approximately \$125.00 for uniforms and insurance.

Under the supervision of the PT, the student will utilize various physical agents such as heat, cold, light, water, electricity, and sound. The student will also be able to administer massage and therapeutic exercises as well as teach gait and other activities of daily living. The student will assist in more complex procedures such as administering manual muscle tests, electrical tests, and other evaluative examinations. The student also observes, records, and reports to the supervisor conditions, reactions, and responses related to his or her assigned duties. Other duties include general physical therapy record keeping and housekeeping.

This program is accredited by the American Physical Therapy Association. Available facilities restrict program enrollment. Applicants are admitted to SIUC in the category Pre-Physical Therapist Assistant, and are provided the additional application materials included in the requirements for admission to the program. All completed application materials to the program for Fall 1990 will be reviewed after January 15, 1990. Enrollment for the Fall 1990 class will be closed as soon as available spaces are filled with qualified candidates. Applications completed after that date will be considered for acceptance as space is available and at the discretion of the admissions committee.

Before graduation, the student will serve an internship of twelve weeks in two separate hospitals located away from the campus.

Representative First Job Titles: Physical Therapist Assistant.

A major in Physics may be pursued through either the College of Science or the College of Education. The program of study provides for a mastery of the basic principles of classical and quantum physics. It also provides a breadth of coverage in the applications of physics principles to neighboring fields. Because of the central position of physics among the physical sciences, the physics graduate with his analytical and instrumental skills can flexibly contribute to the solution of pressing national problems of energy supply, water resources, transportation, environmental healthfulness, security and other vital concerns. A basic knowledge of classical and quantum physics is essential for a successful entry into a very wide variety of interdisciplinary areas of science such as biophysics, geophysics, communications science, space science, environmental science, medical science, and engineering.

The program at SIUC, building upon a solid foundation of classical physics, provides a sound introduction to atomic and molecular physics with options for specializing in solid state, atmospheric, plasma, nuclear, mathematical physics and biophysics.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 114	American Government & Politics	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ²	-	3
GEE 201	Healthful Living	-	2
CHEM 222a,b	Intro. to Chemical Principles & Lab	4	4
MATH 111	Pre-Calculus ³	5	-
MATH 150	Calculus I	-	5
		<hr/> 15	<hr/> 17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB 202	Introduction to Psychology	3	-
GEB 301	U.S. History ²	-	3
GEC	English, Elective in Humanities (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 153	Public Speaking	-	3
GEE	P.E. Activity ²	-	2
MATH 250	Calculus II	4	-
PHYS 205a, b,			
255a, b	University Physics & Lab ⁴	<hr/> 4	<hr/> 4
		17	15

¹See also the program (B.S.) under the College of Science.

²To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³Math 111 substitutes for GED Mathematics.

⁴These courses count towards the GEA science requirement.

⁵These courses are for students with a year or more of high school chemistry. Those with less than a year should take Chem 115 (Introduction to General Chemistry) before Chem 222.

Physics As A Major

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

A major in Physics may be pursued through either the College of Science or the College of Education. The program of study provides for a mastery of the basic principles of classical and quantum physics. It also provides a breadth of coverage in the application of physical principles to related fields. Because of the central position of physics among the physical sciences, the physics graduate with analytical and instrumental skills can flexibly contribute to the solution of pressing national problems, from energy to the environment. A basic knowledge of classical and quantum physics is essential for successful entry into a wide variety of interdisciplinary areas of science such as biophysics, geophysics, communications science, space science, environmental science, medical science, and engineering. The program at SIUC, building upon a solid foundation of classical physics, provides a sound preparation in modern physics necessary for undertaking advanced study in physics and related areas, or to participate in research and development work in industry or government laboratory.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition ²	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ²	1	2
FL	Foreign Language ^{3,4}	4	4
MATH 111	Pre-calculus ⁴	5	-
*MATH 150	Calculus I ⁴	-	4
		<hr/> 16	<hr/> 16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 211	Contemporary Economics	3	-
GEC	Humanities (select) ²	-	3
GEE	Human Health and Well Being (select) ²	-	1
BIOL	Biological Sciences (not GE-A) ^{3,4}	3	3
*CHEM 222a, b	Introduction to Chemical Principles & Lab ^{3,4,5}	4	4
*MATH 250	Calculus II	4	-
*PHYS 205a, b			
and 255a, b	University Physics and Lab ^{3,4}	4	4
*PHYS 301	Theoretical Methods in Physics	-	2
		<hr/> 18	<hr/> 17

*Required courses for a major in Physics.

¹ See also the program (B.S.) under the College of Education.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³ Approved substitutes for General Education.

⁴ Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences.

⁵ These courses are for students with a year or more of high school chemistry. Those with less than a year should take Chem 115 (Introduction to General Chemistry) before Chem 222.

Physics As A Major

At SIUC a student may elect one of several options to prepare himself or herself as a physicist. Choices exist for both the experimentally and theoretically-oriented student. The physics major may prepare to enter the graduate school or an industrial and/or government laboratory. In addition, there is a degree option for those wishing to teach in the secondary level school system.

Representative First Job Titles: Physicist, Acoustician, Design Physicist, Quality Control Physicist, Research Physicist, Aerodynamics Scientist, Applied Physics Researcher, Astrophysicist, Atomic and Molecular Physicist, Biophysicist, Geophysicist, Factory Insurance Representative, Thermodynamicist, Optics Physicist, Manufacturer's Representative, Mechanics Physicist, Nuclear Physicist, Plasma Physicist, Product Studies and Testing Physicist, Solid-State Physicist, Physical Metallurgy Scientist, Biophysicist, Astronomer, Geodesist, Crystallographer, Air Pollution Analyst, Theoretical Physicist, Health Physicist.

Physiology involves studying the functioning of organisms during life and how life processes operate. Courses include physiological techniques, pharmacology, electron microscopy, and anatomy. A bachelor's degree in physiology provides good background for a variety of research positions in academia, industry and government as well as for working with data analysis, sales and professional writing. However, a B.A. degree in physiology is particularly valuable as preparation for further education including medical and other health-related professional schools, and graduate programs in physiology, cell biology, and other disciplines. After completing graduate work, colleges and universities provide the greatest job opportunities. Government agencies are the second largest employers of physiologists.

First Year		Fall	Spring
GEB	Social Studies (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
FL	Foreign Language (select) ^{2,3}	4	4
CHEM 222a,b	Introduction to Chemical Principles ^{2,3}	4	4
MATH 108 & 109	College Algebra and Trigonometry ^{2,3}	3	3
		17	17
Second Year		Fall	Spring
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
BIOL 305	Genetics ³	-	3
CHEM 380a,b	Organic and Biological Chemistry ⁴	3	3
MATH 150 or 250	Calculus	4	4
PHYS 203a,b and 253a,b	College Physics and Lab ²	4	4
		14	17

¹Refer to section General Education for the Transfer Student.

²Approved substitutes for General Education.

³Students in the College of Science must take one year of foreign language, one year of math, six semester hours of physical sciences, and six semester hours of biological sciences.

⁴If a student chooses the one-year Organic Chemistry series, Biochemistry (CHEM 380b or 451) is required in the third or fourth year. If a student chooses Chemistry 380 (one semester Organic Chemistry, one semester Biochemistry), it may be taken during the second or third year.

Third and Fourth Years

During the third year, a student may select from Biology 307, 308, 309. A student fulfills remaining General Education requirements and select physiology courses according to professional interests and remaining departmental requirements. Students are required to do some laboratory research with individual faculty during their third and fourth years.

Physiology As A Major

In addition to adequate equipment for all routine work, the following facilities are available to our graduate students: cell and tissue culture facilities, ultracentrifuge, high performance liquid chromatography, complete facilities for radioimmunoassays, environmental chambers with controlled photoperiod and temperature, activity recorders, an RCA and a Hitachi electron microscope as well as a shadowcaster, photographic equipment, knifebreaker, and ultramicrotome; isotopic equipment including scalars and monitors; fully equipped animal rooms, autoclave, several varieties of analytic balances, refrigerated centrifuges; constant temperature baths and ovens; walk-in cold rooms, electrophoresis equipment; Warburg apparatus; physiographs; fraction collectors; oscilloscopes; blood gas apparatus, electrocardiograph, strength testing equipment; personal computers and computer terminals.

Representative First Job Titles: Physiologist, Pharmacologist, Bioastronautician, Physiological Researcher, Genetics Researcher, Manufacturer's Representative, Pathologist, Technical Writer, Biostatistician, Researcher, Toxicologist, Pharmaceutical Sales Representative.

PLANT AND SOIL SCIENCE
(Business Option)
College of Agriculture
(Bachelor of Science)

Dr. Donald Stucky, Chair
Telephone - 618-453-2496
Agriculture Building, Room 176

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the business option is oriented toward the student interested in working in business and industry, he or she still may select courses in a wide choice of electives from throughout the College of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special education, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being ²	2	2
BOT 200	General Botany and Lab ¹	4	-
CHEM 140a	Chemistry ¹	-	4
PLSS 200	Principles of Field Crop Production	-	3
		15	18
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	2	-
GEB	Social Studies (select)	3	-
GEC	Humanities (select)	-	3
GED 153	Public Speaking	-	3
GEA or B or C	Elective	-	3
ABE 204	Intro to Agricultural Economics ¹	3	-
ACCT 210	Accounting Principles and Control	-	3
CHEM 140b	Chemistry	4	-
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
		15	16

¹Substitutes for General Education requirements.

²See General Education for the Transfer Student for information on SIUC's General Education requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. A total of 40 hours in agriculture is required which includes 28 hours in Plant and Soil Science, and six hours from two other departments in the College of Agriculture. Of the 28 required hours in Plant and Soil Science, at least fifteen hours must be at the 300 and 400 level with no less than nine hours at the 400 level. In addition, the student must take either Marketing 304 or ABE 360, and management 301 or 304, eight hours of business electives, a course in computers, and Botany 320. The student may select courses within the University for eight hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with potential employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

PLANT AND SOIL SCIENCE
 (Environmental Studies Option)
 College of Agriculture
 (Bachelor of Science)

Dr. Donald Stucky, Chair
 Telephone - 618-453-2496
 Agriculture Building, Room 176

The Environmental Studies option is designed to familiarize the student with environmental problems relating to plants and soils. Thorough training in the solution to these problems will prepare students for interesting careers with environmental protection agencies, pollution control boards and other agencies.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	One course from either group: Group 1 GEB 103, 104 or 105 Group 2 GEB 108 or 102	3	-
GEC	Humanities (select)	3	-
GEC 221	Survival of Man	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	2	-
ABE 204	Intro. to Agricultural Economics	-	3
BOT 200	General Botany and Lab ¹	-	4
CHEM 222a&b	Intro. to Chemical Principles and Lab ¹	4	4
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 330	Weather	-	3
GEB 212	Intro. to American Government & Politics	3	-
GEC	Humanities (select)	-	3
GED 153	Public Speaking	3	-
GEE	Human Health and Well Being (select)	-	2
GEA or B or C	Elective	3	-
AG 333	Agr. & Forestry Env. Problems	-	3
ECON 215	Introduction to Microeconomics	3	-
MATH 108, 109	College Algebra and Trigonometry	3	3
PLSS 220	General Horticulture	-	3
		<u>15</u>	<u>17</u>

¹Substitutes for General Education requirements.
²See General Education for the Transfer Student for information on SIUC's General Education requirements.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. The student must enroll in the following courses: ANI 455-2, AGRI 401-3, and 440-3; BOT 320-4; ECON 333-3, PLSS 200-3, 240-4, 380-1, 419-3, 420-4, 441-3, 447-3, and 468-3, POLS 325-3; a course in computers, and CE 314-4. In addition, the student may select courses within the University for three hours of outside electives, and nine hours of electives in the College of Agriculture.

Environmental Studies As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

PLANT AND SOIL SCIENCE
(General Option)
College of Agriculture
(Bachelor of Science)

Dr. Donald Stucky, Chair
Telephone - 618-453-2496
Agriculture Building, Room 176

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the general option is production oriented, the student may select elective courses from the College of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special education, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	2	2
ABE 204	Agricultural Economics ¹	-	3
BOT 200	General Botany with Lab ¹	4	-
CHEM 140a	Chemistry ¹	-	4
PLSS 200	Principles of Field Crop Production	-	3
		<u>15</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB	Social Studies (select) ²	3	-
GEC	Humanities (select) ²	3	3
GED 153	Public Speaking	-	3
GEA or B or C	Elective	-	3
CHEM 140b	Chemistry	4	-
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
PLSS elective		-	3
		<u>16</u>	<u>16</u>

¹Substitutes for General Education requirements.

²Consult the section General Education for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. A total of 45 hours in agriculture is required which includes 28 hours in Plant and Soil Science, six hours from two other departments in the College of Agriculture, a course in computers, and Botany 320-4. Of the 28 required hours in Plant and Soil Science, at least fifteen hours must be at the 300 and 400 level with no less than nine hours at the 400 level. In addition, the student may select courses within the University for nineteen hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with potential employers and assists in finding internships and permanent positions. A minor is not required and there are no foreign language requirements. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

PLANT AND SOIL SCIENCE
(Landscape Horticulture)
College of Agriculture
(Bachelor of Science)

Dr. Donald Stucky, Chair
Telephone - 618-453-2496
Agriculture Building, Room 176

The Department of Plant and Soil Science includes in its program an option in Landscape Horticulture. The program is designed to provide thorough training in both theory and practice to prepare students for interesting careers in landscaping or gardening in parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Sciences (select) ²	3	-
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ²	2	2
ABE 204	Agricultural Economics ¹	-	3
BOT 200	General Botany and Lab ¹	4	-
CHEM 140a	Chemistry ¹	-	4
PLSS 200	Principles of Field Crop Production	-	3
		<u>15</u>	<u>18</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	-	2
GEB	Social Sciences (select) ²	3	-
GEC	Humanities (select) ²	3	3
GED 153	Public Speaking	-	3
GEA or B or C	Elective	3	-
AdSc 301	Management and Supervision	-	3
AGEM 376	Applied Graphics	2	-
CHEM 140b	Chemistry	4	-
PLSS 240	Soil Science	-	4
PLSS 200	Principles of Field Crop Production	-	3
		<u>15</u>	<u>18</u>

¹Substitutes for General Education requirements.

²Refer to the section General Education for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives. The student must enroll in the following courses: BIOL 307-3, BOT 320-4, 356-4, or 357-3, PLSS 322-3, PLSS 327-3; 328a, b-2,2; 381-1, 428a, b-33, 432-4 or 434-3, a course in computers, and ZOOL 316-3. In addition, the student may select courses within the University for four to six hours of outside electives, and ten hours of electives in the College of Agriculture.

Landscape Horticulture As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with employers and assists students in finding internships and permanent positions. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Landscape Gardener, Nurseryman, Garden Center Manager, Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

The Department of Plant and Soil Science includes field crop production, horticulture and soils. There are many widely varied opportunities for students with an interest in plants or soils. The program is designed to provide thorough training in both theory and practice. Although the science option is oriented toward the student interested in an advanced degree, he or she still may select elective courses from the College of Agriculture and the University. Opportunities for individual program development may be realized through work experience, internships, special education, and seminars. A course of study in international agriculture can be taken if the student so desires.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (select) ²	2	2
ABE 204	Agricultural Economics ¹	-	3
BOT 200	General Botany and Lab ¹	4	-
CHEM 222a&b	Introduction to Chemical Principles ¹	4	4
MATH 108, 109	College Algebra and Trigonometry ¹	3	3
PLSS 200	Principles of Field Crop Production	-	3
		<u>16</u>	<u>18</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select)	3	3
GEC	Humanities (select)	3	3
GED 153	Public Speaking	-	3
GEA or B or C	Elective	3	-
PHYS 203 a&b	College Physics	3	3
PLSS 220	General Horticulture	3	-
PLSS 240	Soil Science	-	4
AG electives		<u>2</u>	<u>-</u>
		<u>17</u>	<u>16</u>

¹Substitutes for General Education requirements.

²Consult the section General Education for the Transfer Student.

Third and Fourth Years

The last two years of a student's program concentrates on specific professional objectives. A total of 40 hours in agriculture is required which includes 28 hours in Plant and Soil Science, and six hours from two other departments in the College of Agriculture. Of the 28 required hours in Plant and Soil Science, at least fifteen hours must be at the 300 and 400 level with no less than nine hours at the 400 level. In addition, the student must take Botany 320, Chem 340 and 341, a course in computers, and four hours of courses in mathematics, physical sciences, or biological sciences. The student may select courses within the University for nine hours of outside electives.

Plant And Soil Science As A Major

Numerous job opportunities are available for graduates of this option. The department maintains close contact with many universities and research laboratories and assists in placing students. A minor is not required and there is no foreign language requirement. An honors program and a work experience program are available.

Representative First Job Titles: Soil Conservationist, Water Conservationist, Soil Erosion Prevention Specialist, Geological Environment Mapping Scientist, Aquifers and Rocks Characteristics Scientist, Plant and Soil Laboratory Technologist, Production Manager, Plant Quarantine Inspector, Plant Pest Control Inspector, Farm Manager, Entomologist, Foreman-Park Maintenance, Public and Environmental Health Scientist, Plant Ecologist, Plant Breeding Expert, Plant Morphologist, Technical Service Representative, Plant Pathologist, Plant Physiologist, Plant Taxonomist, Soil Bacteriologist.

POLITICAL SCIENCE
(Government)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

The Department of Political Science offers an undergraduate major in the College of Liberal Arts and the College of Education. The major requires a minimum of thirty-four hours in Political Science courses. A minimum GPA of 2.5 is required. Furthermore, at least three courses must be taken at the 400 level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	-
GEB 114	American Government & Politics	3	-
GEB 202	Introduction to Psychology	-	3
GEB 211	Contemporary Economics ³	-	3
GEC	Humanities (select) ²	3	3
GED 101	English Composition	3	-
GED 102	English Composition II ²	-	3
GED 107	Intermediate Algebra	-	3
GEE 201	Human Health ²	2	-
Electives		1	1
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ²	3	3
GEB 250	Intro. Comparative Government & Politics ³	3	-
GEB 301	U.S. History	-	3
GEC	English Elective in Humanities	3	-
GED 153	Public Speaking	3	-
GEE	Activity Course	-	2
Elective ^{2,4}		4	8
		<u>16</u>	<u>16</u>

¹ See also the program under the College of Liberal Arts.

² To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

³ Recommended but not required.

⁴ Elective hours should be used in the following ways: 1) students may explore areas of interest; 2) in order to select a minor.

Political Science As A Major

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

POLITICAL SCIENCE*
College of Liberal Arts
(Bachelor of Arts)

Dr. John Foster, Chairperson
Telephone - 618-536-2371
Fanner Building, Room 3081

The Department of Political Science offers undergraduate majors in the College of Liberal Arts and the College of Education. The major requires a minimum of 33 hours in five different fields. A minimum GPA of 2.0 is required. Furthermore, at least three courses must be taken at the 400 level, and at least 14 of the required 33 hours must be earned at SIUC.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GEB 114	Intro. to American Government & Politics ²	-	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
		<u>14</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 250	Politics of Foreign Nations ⁵	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	-	2
FL	Foreign Language ³	4	4
MATH (select)	Math 150, 250, 282 or 283 ⁴	3	-
POLS 200	Intro. to Discipline of Political Science ⁵	-	3
Elective ⁶		-	3
		<u>16</u>	<u>15</u>

*See also the program under the College of Education.

¹ See General Education for the Transfer Student.

² Required by the major.

³ Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁴ One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁵ Recommended but not required. Political Science majors are strongly urged to take POLS 200 at some time, preferably early, in their studies.

⁶ Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (refer to College of Liberal Arts section).

Political Science As A Major

The Greek word "idiot" meant one who has no interest in politics and the affairs of state. Hence, the study of political science is one of the oldest and most central of all intellectual activities. Some of the major topics of political science are: What is the best form of government? How do various governments around the world actually work?

Political science majors work with questions as old and important as the above as well as with recently developed social science research techniques. Courses in political science encourage students to question, analyze and reason in addition to improving written and verbal communication skills. They also provide a great deal of expertise on the inner workings of all levels of government and the relationships between government and the private sector.

Political Science majors are encouraged to receive a broad education tailored to their particular career plans. Those interested in foreign affairs should stress a foreign language. A student interested in social science research skills can combine political science with economics, statistics and computer science. Someone interested in a legal career can join political science with English, philosophy and a range of other social sciences. The SIUC Department of Political Science offers a full range of courses in the field and has developed significant visibility for its research efforts in recent years.

Career Opportunities: Political Science is one of the most versatile majors in the liberal arts. It provides training for public service, scientific polling and political analysis, business management training programs, diplomacy, foreign affairs, and teaching at the secondary level. Political Science is an excellent foundation for professional training in law, journalism, public administration, or public affairs as well as for graduate work in political science which is essential for a career in higher education. It is also the natural choice for the non-vocationally oriented student who has an interest in politics and public affairs.

The SIUC pre-dental program meets the general requirements of all United States dental schools. It is designed by the Health Pre-Professional Committee to prepare students for taking the Dental Admission Test not later than spring of the junior year. The Committee and the Health Professions Information Office are available to offer information and guidance to pre-dental students and to assist in the process of application by furnishing a composite evaluation of each applicant to the dental schools to which he or she applies.

First Year		Fall	Spring
GEA 118 ¹	Introductory Zoology	4	-
GEB	Social Studies (select)	3	3
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (Activity) ³	2	-
MATH 108, 109	College Algebra and Trigonometry	3	3
ZOOL 220b ¹	Diversity of Animal Life (Vertebrate) ²	-	4
		15	16
Second Year		Fall	Spring
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select)	3	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ³	2	-
CHEM 222a,b ²	Introduction to Chemical Principles	4	4
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
		16	14

¹Community college students may substitute one or two semesters of general biology with laboratories for zoology if the biology courses are intended for science majors.

²Students lacking high school chemistry must begin with Chem 115. Chemistry majors or students hoping to enter dental school with only three years of college should plan to complete inorganic and organic chemistry during their first two years. Generally, there is some advantage to finishing pre-dental chemistry requirements at a four-year college.

³Refer to the section General Education for the Transfer Student.

Third and Fourth Years

If all requirements are completed, students may take the Dental Admission Test in spring of their sophomore or fall of their junior years and apply for entry after three years of undergraduate preparation. Most students, however, are admitted to dental schools after four or more years of preparation. Students may choose any major and must complete the departmental, college and University requirements for a degree. No preference among possible majors is given by the professional schools. In addition to required courses, it is recommended that the student choose from among the following courses, as his or her time permits: genetics, cellular biology, embryology, developmental biology, comparative anatomy, microbiology, biochemistry, psychobiology, personality or social psychology. Additional mathematics, statistics, humanities and social sciences will also be helpful.

Dentistry As A Career

Professional training requires four years in the dental school. Specialties beyond general practice require further training. Dentistry is becoming increasingly involved in the detection of a variety of diseases and in esthetic improvement, correction and reconstruction, preventive dental care, and community health care as well as in private practice.

The Association of American Law Schools and the Southern Illinois University School of Law emphasize that the effectiveness of prelegal study cannot be advanced by prescribing courses of study or extracurricular activities. Instead, students should cultivate basic skills and insights through education for comprehension and expression in words, for critical understanding of the human institutions and values with which law deals, and for creative power in thinking. This is best achieved in fields of individual interests and abilities. Subjects which provide stimulating training for one person may do very little to arouse and sharpen the intellect of another. In addition, law touches so many phases of human activity that there is scarcely a subject which is not of value to the law student and to the lawyer. A student is therefore advised to place as much emphasis on the liberal arts as his or her own program of undergraduate study will permit; and within the outlines of that program the following should also be noted:

The essential ability to think precisely and exactly is most likely to be acquired through courses in logic, mathematics, philosophy, and the natural sciences.

Courses in English composition and public speaking develop the power of clear and well-ordered expression. Courses in which students receive intensive faculty critiques of their writing skills are highly recommended. Preparation in composition is essential and preparation in public speaking is of great value.

The fields of history (particularly English and American history), political science, psychology, economics, and sociology are important to an appreciation of human institutions and values and their relation to law.

An understanding of financial statements and of elementary accounting principles has become almost indispensable. Some familiarity with computers is also helpful.

There are opportunities in special types of practice for those who concentrate in particular fields, such as engineering, business administration, chemistry, physics, or agriculture before entering law school.

Refer to the section General Education for the Transfer Student to determine what courses may be taken to satisfy the University's general education requirements.

Pre-Law

Pre-Law is not a major in that students cannot receive a degree in Pre-Law. Since most law schools now require applicants to possess a bachelor's degree, students are advised to select a major in the academic unit where they would like to obtain a degree.

PRE-MEDICINE (INCLUDING OSTEOPATHIC MEDICINE)

Pre-Professional
(Select Academic Unit)

Patricia Sims
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-185

At SIUC, the pre-medical program is guided by the Health Pre-Professional Committee. Through the Health Professions Information Office students are able to find information concerning professional schools and their requirements, curriculum guidance, and assistance with the procedures involved in applying to medical or osteopathic medical schools. The curriculum meets the general requirements of all United States medical schools and is designed to provide students with a strong course background on which to base their medical education.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118 ¹	Introductory Zoology	4	-
GEB	Social Studies (select)	3	3
GEC	Humanities (select)	-	3
GED 101, 102	English Composition I and II	3	3
GEE	Human Health and Well Being (select)	2	-
MATH 108, 109	College Algebra and Trigonometry	3	3
ZOOL 220b ¹	Diversity of Animal Life (Vertebrate) ²	-	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select)	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
CHEM 222a,b ²	Introduction to Chemical Principles	4	4
ENGL 290	Intermediate Expository Writing	-	3
MATH 150	Calculus	-	4
Electives ³		<u>3</u>	<u>5</u>
		<u>16</u>	<u>16</u>

¹Community college students may substitute a year of general biology with laboratory if the course is intended for science majors.

²Students lacking high school chemistry must taken Chem 115 prior to Chem 222. Chemistry majors should begin chemistry in the first year.

³Community college students are encouraged to complete foreign language and associate degree requirements before transferring. Taking the additional pre-medical sciences at a four-year college is preferred.

Third and Fourth Years

Pre-Medical students must complete organic chemistry and a year of physics in the third year in order to take the Medical College Admission Test in the spring of that year. Application procedures require a year.

Pre-medical students may choose any major in which to earn the bachelor's degree. Requirements of that degree, of the college in which it is granted, and of the University must be met at the same time that pre-medical requirements are taken. If a science major is chosen, there will be considerable overlapping of requirements. Additional courses recommended for pre-medical preparation include genetics, cellular biology, embryology or developmental biology, comparative anatomy, microbiology, biochemistry, psychobiology, additional mathematics, and social sciences. If the major chosen is in the College of Science, a year of foreign language will be required.

Medicine As A Career

Medical training will require another four academic years, plus residency. Admission to medical schools is extremely competitive. Students can help themselves by making realistic appraisals of their interests and abilities, by planning ahead to meet all requirements and time schedules, and by keeping themselves informed of admission requirements and procedures. They will receive help through the Health Professions Information Office and the Health Pre-Professional Committee.

Medicine today offers both promise and challenge, whether students are interested in becoming primary physicians, physician specialists or medical scientists. Prevention as well as cure, and the extension of health care to all of society have become important goals in the preparation of physicians.

The flexibility with which the pre-medical students at SIUC may approach their total undergraduate preparation as well as the quality of the pre-medical requirements make it possible for students to achieve an excellent pre-medical preparation.

PRE-NURSING
Pre-Professional
(Pre-Major Advisement)
Undergraduate Academic Services

Billie Jacobini
Undergraduate Academic Services
Telephone - 618-536-5506
Woody Hall, Wing C, Room 117

or

Mary Goss
Pre-Major Advisement Center
Telephone - 618-453-4351
Woody Hall, Wing C, Room 117

The baccalaureate degree in nursing is offered at Southern Illinois University at Edwardsville. Students may complete selected General Education and nursing pre-requisites at Carbondale during their first three semesters and apply for admission to the School of Nursing at SIU-Edwardsville for the remainder of the baccalaureate program.

The total program is designed for those who wish to become registered nurses or registered nurses who wish: 1) to strengthen their scientific basis for nursing practice, 2) to broaden and deepen their general educational and cultural background, and 3) to obtain a baccalaureate degree to qualify for further study on the graduate level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 104	The Human Experience - Anthropology	3	-
GEB 108	The Sociological Perspective	-	3
GEC 104	Moral Decision	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
CHEM 140a,b	Chemistry (inorganic, organic, and biochemistry)	4	4
PHSL 208, 209	Principles of Physiology & Lab	-	4
		<u>16</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	3	-
GEB 262	Marriage and Family in Contemporary Society	3	-
GEC	Select	3	6
GEC 208	Elementary Logic	-	3
HED 311	Human Growth and Development	3	-
MICRO 301	Principles of Microbiology	4	-
PHSL 301	Survey of Human Anatomy	-	4
PSYC 305	Psychology of Personality	-	3
		<u>16</u>	<u>16</u>

As soon as possible after advisement for the fall semester, freshman year, the student should see Mrs. Goss, Nursing Advisor, to initiate application to the School of Nursing at SIUE. Deadline date is at least three quarters prior to the quarter the student is applying for. After three semesters at SIU Carbondale, it takes at least eight quarters to complete the baccalaureate nursing program at SIU Edwardsville.

A grade of 'C' or above is required in all nursing courses, all science courses and nursing prerequisites. Students with an overall 2.5 grade point average (4.0 scale) will be considered admissible up to the limit of available space.

Constitution requirement is still required at Edwardsville.

Statistics is now required for SIUE School of Nursing.

Students who take GEB 104, GEB 202, and GEB 108 will be considered as having fulfilled the Social Studies requirements for the General Education program at SIUE.

PRE-OPTOMETRY
Pre-Professional
(Select Academic Unit)

Patricia Sims, Advisor
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-185

Various optometry schools require a minimum of sixty or ninety semester hours of college courses before students can be admitted. However, most of the students admitted in recent years hold a baccalaureate degree. In view of this fact, community college students will be better prepared by fulfilling requirements for an AA degree and postponing some optometry requirements until the third and fourth years.

<u>First Year</u> ¹		<u>Fall</u>	<u>Spring</u>
GEA 118 ²	Introductory Zoology	4	-
GEB 202	Psychology	-	3
GEC	Humanities (select)	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
MATH 108, 109	College Algebra and Trigonometry	3	3
ZOOL 220b ²	Diversity of Animal Life (Vertebrate)	-	4
		<u>13</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEC	Humanities (select)	3	-
CHEM 222a,b ³	Introduction to Chemical Principles	4	4
MATH 150	Calculus I (with analytic geometry)	4	-
MATH 282 ⁴	Statistics	-	3
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
	Elective	-	3-5
		<u>15</u>	<u>14-16</u>

¹ See information above concerning course selection.

² Community college students may substitute one or two semesters of general biology if it is a course for science majors and if it includes 3-4 hours per week in laboratory.

³ Chemistry majors or other students hoping to enter optometry school after three years must begin a chemistry sequence in the first year and take organic chemistry in the second in order to take the Optometry College Admissions Test one year prior to optometry school entry. Students with no high school chemistry must begin with CHEM 115.

⁴ Any three-hour statistics course taught by business, mathematics, or psychology department is acceptable.

Third and Fourth Years

No degree is given in pre-optometry. Students may choose any major at SIUC. Additional requirements of optometry schools include microbiology, organic chemistry, and additional psychology courses. Students interested in Indiana must have a course in either human or comparative anatomy and a year of college level foreign language or two years of high school foreign language.

Recommended courses include child (or developmental) and other psychology, introductory business, genetics, embryology, and cell biology.

Optometry As A Career

Optometry training requires four years in an accredited professional school. The candidates then take a licensing examination.

Career opportunities exist in individual or group practice, in hospitals or eye clinics, in public health agencies, in industrial health programs, and in consultant services to other professions, such as educators in remedial reading, illuminating engineers, or highway safety planners.

Current changes in pharmacy programs make it imperative that pre-pharmacy students have some particular school in mind and are aware of its requirements. The only Illinois program (University of Illinois at Chicago) now is a Doctor of Pharmacy (Pharm. D) program requiring two years of preparatory courses such as the following:

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118 ²	Introductory Zoology	4	-
GEB 108	The Sociological Perspective	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
CHEM 222a,b	Introduction to Chemical Principles	4	4
MATH 108,109	Algebra-Trigonometry	3	3
PHSL 208 & 209	Principles of Physiology and Lab	-	4
		<u>14</u>	<u>17</u>

Students may need to enroll in additional courses during the summer term to avoid overloads during regular semesters. (See "In Addition" below).

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
CHEM 344, 346	Organic Chemistry	4	2
CHEM 345, 347	Laboratory Techniques	2	3
MATH 140 or 141	Short Course in Calculus	-	4
MICRO 301	Principles of Microbiology	4	-
PHSL 301	Survey of Human Anatomy	-	4
Electives	See additional requirements below	-	3
		<u>16</u>	<u>16</u>

In Addition

Students must complete fourteen additional hours of general education courses consisting of fine arts (art, music, or drama), physical sciences (astronomy, geology, or physics), and humanities (history or philosophy) before entering the Pharm. D. program. These may be added to the suggested schedule above or taken during summer terms. Accepted students will then spend four years in the professional school.

The nearest B.S. in Pharmacy program is located at the St. Louis College of Pharmacy. Students may take one or, at most, two years of pre-pharmacy courses at SIUC and apply to enter as second or third year students in the five-year program. A pharmacy doctorate is also available.

Applicants for the St. Louis program would add economics or government and botany to the first year courses above and delete psychology. During the second year (if taken at SIUC), they must include the physiology majors course (PHSL 310), medical terminology, western cultural tradition, and statistics, but may delete calculus, microbiology and speech courses. However, it will be advantageous to the students to be on the pharmacy school campus during the second year in order to begin courses taught only by the pharmacy school.

Pharmacy As A Career

Students with an aptitude for science and interest in the pharmaceutical field will find that pharmacy offers a variety of careers. The pharmacist may practice in a retail business, in a hospital or clinic or in public health facilities. In industrial pharmacy there are opportunities in research, manufacturing, quality control, administration and sales. Graduate programs are available for pharmacists who seek advancement to careers requiring a master's or doctoral degree.

PRE-PHYSICAL THERAPY

Pre-Professional
College of Science

Patricia Sims, Advisor
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-185

SIUC offers courses to meet the requirements of any physical therapy school. The curriculum suggested below includes minimum requirements of three Illinois professional schools so that students may apply to more than one school. Admission is extremely competitive. Applicants should have some knowledge about physical therapy and some experience in patient care. Application must be made nine months to a year in advance of the beginning date at the professional schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118	Introductory Zoology	-	4
GEB 202	Psychology	-	3
GEC	Humanities (select)	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GEE	Human Health and Well Being (Activity)	2	-
CHEM 222a,b	Introduction to Chemical Principles	4	4
MATH 108, 109	College Algebra and Trigonometry	3	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEC	Humanities (select)	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health & Well Being (select)	2	-
PHSL 310	Introductory Human Physiology or other approved Physiology course	-	4-5
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
PSYCH 301	Child Psychology	3	-
PSYCH 305	Personality Psychology	3	-
PSYCH 431	Psychopathology	-	3
ZOOL 220b	Diversity of Animal Life (Vertebrate)	4	-
		<u>16</u>	<u>17-18</u>

Also required: current certification in cardiopulmonary resuscitation (CPR) and in first aid.

Recommended electives include Anatomy (PHSL 301), Kinesiology (PE 302 or 303), Psychobiology (PSYC 302), sports or skill oriented physical education courses, additional social science courses. Students may prefer to attend summer or spread pre-physical therapy course work through more than two years.

Third and Fourth Years (current in 1988-89)

Northwestern University now requires students to have a baccalaureate degree before entering their physical therapy program. The degree may be in any discipline provided that specific Physical Therapy requirements are met. The program is two years long resulting in a master's degree.

Students who complete training in any of the other three Illinois PT programs are currently admitted with two years (minimum) of specific coursework and earn the baccalaureate degree in two more years at the PT school.

STUDENTS WHO DECIDE TO REMAIN AT SIUC FOR A BACCALAUREATE DEGREE MUST CONSULT AN ACADEMIC ADVISOR AND PLAN A CURRICULUM LEADING TO A DEGREE IN AN APPROVED PROGRAM. The pre-physical therapy curriculum does not lead to any SIUC degree, nor does it guarantee admission into a professional school.

New requirements are expected. Other physical therapy programs are changing over to a master's degree. A few have already made the change, requiring students to have a baccalaureate degree before entering physical therapy school. The student is advised to contact the professional school where he/she might want to finish in order to keep up-to-date on their specific requirements.

PRE-VETERINARY MEDICINE

Pre-Professional
(Select Academic Unit)

Patricia Sims, Advisor
Health Professions Information Office
Telephone - 618-536-2147
Neckers A-185

This curriculum is based on the requirements for application to University of Illinois College of Veterinary Medicine. Although students may apply to professional school after two years undergraduate preparation, most accepted students have completed a degree. Students may choose to spread the required pre-veterinary sciences through a third year. If a degree is to be completed, a major will be chosen in either the School of Agriculture or the College of Science.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 118 ¹	Introductory Zoology	4	-
GEB	Social Studies (select)	-	3
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
ANI 121	Science of Animals	3	-
ANI 122	Production and Processing Practices	1	-
BOT 200 ¹	General Botany and Laboratory	-	4
MATH 108, 109	College Algebra and Trigonometry	3	3
		<u>14</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Studies (select)	-	3
GEC	Humanities (select)	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being	2	-
BIOL 305	Genetics-Classical and Molecular	-	3
CHEM 222a,b	Introduction to Chemical Principles	4	4
PHYS 203a,b	College Physics	3	3
PHYS 253a,b	College Physics Laboratory	1	1
		<u>16</u>	<u>14</u>

¹Community college students should substitute general biology if available for zoology and botany listed. Eight hours of biological sciences (with laboratory experience) suitable for science majors is required.

Third and Fourth Years

Students must complete organic chemistry and biochemistry. In addition to required pre-veterinary courses, there are recommended courses from which the student may choose in accordance with his or her available time. These include Horses, Animal Nutrition, Behavioral Manipulation of Animals, Vertebrate Zoology, Comparative Anatomy, Cell Physiology, Environmental Biology, and Organismic Functional Biology.

No degree is given in pre-veterinary studies. Students should choose an academic major in a science or in animal industries and complete its requirements simultaneously with the admission requirements of the veterinary school. Admission is competitive and is usually granted to students with much more than minimum preparation. Most first year veterinary students have four or more years of pre-veterinary education.

Veterinary Medicine As A Career

After acceptance into the professional school, completion of training in veterinary medicine requires four years. Illinois residents are most likely to be accepted by the University of Illinois veterinary program although a few students are being accepted out of state. With the diversity of offerings at SIUC, the pre-veterinary students have an opportunity to develop related or alternate interests at the same time that they are preparing themselves to apply to the veterinary school.

Professional veterinarians have a wide variety of career choices. They may choose small animal practice, livestock disease prevention and control, meat inspection, control of diseases transmitted from animal to man, supervision of interstate movement of animals, or research in animal disease or in drugs used in animal care.

The psychology major consists of thirteen psychology courses including GE-B 202 for a total of 40 hours. College algebra or finite mathematics is also required. See the Undergraduate Catalog for the specific psychology requirements.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ¹	2	2
MATH 108 or	Finite Mathematics		
MATH 139	College Algebra ²	-	3
Elective ³		3	3
		14	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
FL	Foreign Language ⁴	4	4
PSYC	Psychology Elective	3	3
Elective ³		-	3
		13	16

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Besides being a required course for a major in Psychology, this math course may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later (see College of Liberal Arts section).

³Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

Psychology As A Major

The major program serves three main classes of students: 1) those who wish an interesting major but who plan no postgraduate academic work, 2) those who plan non-psychology graduate work for which an undergraduate major may be useful (e.g., medical school, social welfare, rehabilitation counseling), and 3) those preparing for graduate work in psychology. As a consequence, the program is aimed at providing broad general education rather than training in specialized psychological skills.

Representative First Job Titles: Alcoholism & Drug Addiction Researcher, Child Care Worker, Sales Agent, Senior Citizens Center (Director), Prisoner Classification Interviewer, Probation and Parole Incharge, Rehabilitation and Resettlement Personnel, Claims Authorizer, Drug Abuse Counselor, Mental Health Clinic Technician.

RADIO-TELEVISIONCollege of Communications and Fine Arts
(Bachelor of Arts)Joe S. Foote, Chairperson
Telephone - 618-536-7555
Communications Building, Room 1056

A major in Radio-Television may be pursued through the College of Communications and Fine Arts. The program leads to the Bachelor of Arts degree. The program is designed to prepare students for leadership positions in the broadcasting industry or in related fields. As a part of the educational experience, students are encouraged to gain actual experience in any phase of broadcasting at the University-operated stations or local stations. Students are encouraged to focus their studies in one of three specializations: 1) Broadcast News, 2) Broadcast Production, 3) Broadcast Sales and Management.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEA 101	Conceptual Insights into Modern Communication Systems	3	-
GEB	Social Studies (select) ¹	3	3
GEC	Humanities (select) ¹	3	3
*GED 101	English Composition ²	3	-
*GED 102	English Composition II ²	-	3
GED 152 or GED 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (select) ¹	2	1
		14	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Studies (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	1	-
*R&T 300m	Intro. to Broadcast Writing, Performance, and Production ³	3	-
*R&T 300p	History and Foundations of Broadcasting ³	-	3
Elective	Advanced Courses beyond GE level	-	3
	Foreign Language or Computer Science	3-4	3-4
		13-14	15-16

*Required courses for a major in Radio-Television.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Each student in Radio-Television must complete GED 101 and 102 with a grade of 'B' by the end of his or her sophomore year or a grade of 'C' in English 290 (Advanced Composition) in order to take advanced courses in Radio-Television. Students must also demonstrate a typing ability of 30 words per minute.

³Radio-Television 300M and 300P are required of all majors before enrollment in other Radio-Television courses is permitted. Both RT 300M and 300P must be passed with a grade of 'C' or better.

Transfer of Broadcasting Credits

Transfer students with broadcasting credits in content covered by RT 300M and/or RT 300P may qualify for a Competency Test over that curriculum. If the 300M and/or 300P test is passed, the student need not repeat 300M and/or 300P at SIUC. Other broadcasting credits from two-year institutions may apply toward the major but not as equivalencies to any specific SIUC Radio-Television courses.

A minor of 15 hours is required of all students in Radio-Television. The minor should include courses in a single discipline outside the department and include courses beyond the GE level. Students should consult with their academic advisor for specific recommendations.

The major in Radio-Television consists of 35-38 hours minimum in Radio-TV coursework. Of those, 15 hours are required of all majors: RT 300M, RT 300P, RT 305, RT 308, and RT 393. In addition, students are expected to develop a specialization in a single area by taking three or four concentrated courses in either News, Production, or Management. Students are also required to complete a six semester-hour block in computer programming or foreign language.

The Department of Radio-Television, with over 500 majors, is one of the largest and most respected programs of its kind in the nation.

Representative First Job Titles: Producer, Director, Sales Representative, News Writer, Copywriter, News Reporter, Newscaster, Announcer, Program Director, Sales Manager, Researcher, Community Affairs Director, Disc Jockey, Station Manager, Broadcast Engineer, Radio Account Executive, Camera Technician, Scriptwriter, News and Assignment Editor, Continuity Director.

RADIOLOGIC TECHNOLOGY (Radiography)
College of Technical Careers
(Associate in Applied Science)

Steven Jensen, Coordinator
Telephone - 618-453-8882
Technical Careers Building
Room 114

Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occurring in the human body. The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the course provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists. Since 1980, 95 percent of program graduates have successfully completed this examination. This number is well above the national average.

To be accepted into the radiologic technology degree program the student must have completed the general education courses designated under "first year" below. The advanced radiologic technology courses combine classroom and clinical education which upon completion allows the graduate to become registry eligible and to receive an associate in applied science degree in radiologic technology.

FIRST YEAR - "PRE-REQUISITES"

<u>Fall</u>		<u>Lecture</u>	<u>Lab</u>	<u>Clinic</u>	<u>Credits</u>
GED 107	Intermediate Algebra	3	0	0	3
GED 152 or	Interpersonal Communication or	3	0	0	3
GED 153	Public Speaking	3	0	0	(3)
AHC 141	Intro to Physiology & Human Anatomy	4	0	0	4
AHC	Secondary Specialty-Allied Health	3	0	0	3
					<u>13</u>
<u>Spring</u>					
GEA 106 or	Chemistry or	3	0	0	3
CTC 107	Applied Physics	3	2	0	(4)
GEB 202	Introduction to Psychology	3	0	0	3
GED 101	English Composition	3	0	0	3
AHC	Secondary Specialty-Allied Health	6	0	0	6
					<u>15/16</u>

SECOND YEAR - "PROFESSIONAL COURSES"

<u>Fall</u>		<u>Lecture</u>	<u>Lab</u>	<u>Clinic</u>	<u>Credits</u>
AHC 102	Introduction to Radiologic Technology & Radiographic Technique	4	0	0	4
AHC 112	Anatomy & Positioning I (8 wks.)	3	6	0	3
AHC 132	Anatomy & Positioning II (8 wks.)	3	6	0	3
AHC 202	Radiographic Physics	3	0	0	3
					<u>13</u>
<u>Spring</u>					
AHC 222	Clinic I (16 weeks)	0	0	36	10
AHC 372A	Film Critique I	4	0	0	2
					<u>12</u>
<u>Summer</u>					
AHC 212	Special Procedures	4	0	0	2
AHC 232	Selected Systems Radiography	6	4	0	4
					<u>6</u>

THIRD YEAR - "PROFESSIONAL COURSES"

<u>Fall</u>		<u>Lecture</u>	<u>Lab</u>	<u>Clinic</u>	<u>Credits</u>
AHC 332	Clinic II (16 weeks)	0	0	36	10
AHC 372B	Film Critique II	4	0	0	2
					<u>12</u>
<u>Spring</u>					
AHC 312	Radiographic Pathology	3	0	0	3
AHC 322	Cross-Sectional Anatomy & Radiographic Computerization	3	2	0	4
AHC 342	Radiation Biology, Therapy & Nuclear Medicine	2	0	0	2
AHC 352	Special Imaging Modalities	4	0	0	4
					<u>13</u>
<u>Summer</u>					
AHC 362	Clinic III (8 wks.)	0	0	40	4
AHC 372C	Film Critique (2 wks.)	16	0	0	2
					<u>6</u>

Available clinical facilities restrict program enrollment. Eleven area hospitals are used for clinical experiences. Special application materials are included in the requirements for admission to the program.

Selection of the fall class will be completed on a first qualified, first served basis. Traditionally, the program is filled by April 15. However, applications will be processed and considered after that date as space becomes available. Eleven area community colleges participate in a "linkage" program whereby interested students may complete the first year of pre-requisite coursework.

RECREATION

(Program Services)
(Therapeutic Recreation)
College of Education
(Bachelor of Science)

Dr. John Allen, Chairperson
Telephone - 618-453-4331
Faner Hall, Room 4026

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

The Department of Recreation prepares the student for positions in the management of leisure time pursuits.

The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering practicums, supervised field experiences, and internships in various recreation settings throughout Illinois and the nation.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select physical or elective) ^{1,2}	3	3
GEB	Social Science (select) ¹	3	-
**GEB 202	Introduction to Psychology	-	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra ¹	3	-
GEE 201	Human Health and Well Being ¹	-	2
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select biological)	-	3
*GEA 240	Ecology	3	-
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	P.E. Activity ¹	-	2
*HED 334	Standard First Aid	-	3
Electives	Accounting ³	3	-
*Electives	Psychology	3	3
		<u>15</u>	<u>14</u>

*Recommended, not required.

**Departmental requirements.

¹Refer to the section General Education for the Transfer Student. See also the Undergraduate Catalog for specific departmental requirements.

²Therapeutic Recreation specialization requires a course in physiology approved by the department.

³Program Services specialization requires a course in accounting approved by the department.

Recreation As A Major

Each student is expected to choose courses which will give a broad background in recreational activities and skills.

Students concentrating in recreation are encouraged to obtain the following certificates: American Red Cross Life Saving and Water Certificate, American Camping Association Campcraft Certificate, workshop certificates in recreation sponsored by the state and national recreation and park associations, and other certificates in instructional areas are desirable in preparation for positions in recreation management.

Representative First Job Titles: State Social Service Career Trainee, State Recreation Worker, Recreation Specialist, Activity Director, Recreation Supervisor, Operations Manager, Field Instructor, Program Director, Recreational Therapist.

If you are interested in any one or more of the following questions, think seriously about doing some work in Religious Studies: 1) Does my religious faith need to be examined and refined? 2) Am I suspicious that religion may be doing more harm than good? 3) Do I get involved in arguments about religion with other students? 4) Is modern society doomed because people are losing religious faith? Or because the churches are not doing the right things? 5) Is religion outdated in the modern world? 6) Are all religions basically alike? Or do they have serious differences and conflicts? 7) What do non-Christians believe?

Any one question or combination of these questions makes Religious Studies a fruitful and exciting academic program.

The study of religion, like politics, economics, the arts and technology, is one of the major ways of understanding what makes people behave as they do. Religion is one of the world's oldest modes of behavior, both social and individual. The Religious Studies Department does not promote any one religion; rather it provides a neutral territory for comparing religious options, both old and new. Such a study is particularly useful for anyone who wants to work with people.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	2
FL	Foreign Language ²	4	4
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GEC 215	Types of Religion	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
MATH or CS	Math or Computer Science ³	-	3
RELS 201	Issues in Religion	-	3
Electives ⁴		4	3
		<u>16</u>	<u>15</u>

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit. Greek or Hebrew is recommended.

³One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

⁴Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

Religious Studies As A Major

The primary prerequisite for a major in Religious Studies is not any one course, but rather, an open minded interest in the academic study of religion. To discover whether such interest exists, a student is advised (a) to take GEC 215 plus one elective before the end of the sophomore year; and (b) to confer with the Director of Undergraduate Studies, Faner 3339. In some instances, the department permits a student to receive major credit for courses taken in departments other than Religious Studies.

Representative First Job Titles: Director of Religious Education.

RESPIRATORY THERAPY
College of Technical Careers
(Associate in Applied Science)

Stanley Pearson
Program Coordinator
Telephone - 618-453-7221
Technical Careers Building
Room 137

Respiratory therapy is an allied health specialty concerned with the treatment, management control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilatory control and breathing exercises, cardiopulmonary resuscitation, and measures and maintenance on natural, artificial, and mechanical airways.

The respiratory therapy curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Care (NBRC) and the Pulmonary Specialty Exam (CPFT).

To be accepted into the respiratory therapy degree program, the student must be admitted to both the University and the Allied Health Careers Specialties program. The advanced respiratory therapy courses consist of both formal classroom and off-campus clinical experiences. The clinical experience will be in a variety of locations to provide maximum opportunity for procedures. Upon satisfactory completion of the curriculum, the student is awarded two associate degrees.

It is highly recommended the student complete all pre-requisites before starting the professional sequence. The student should have all program application materials completed in the spring semester for fall entry. Availability of clinical sites and instructors restrict program enrollment.

The professional courses can be completed in 1 1/2 calendar years (three semesters and one summer session). While the regular semesters will utilize both classroom and clinical education experiences, the final fall semester is a full-time clinical internship at a designated full-service hospital, often in the student's home town or proximity. Post associate specialty courses in accordance with degree offerings through Advanced Technical Studies are in development.

Requirements for Major in Respiratory Therapy

Completion of Allied Health Careers Specialties degree program		64
Respiratory Therapy Advanced Courses (AHC designated)		23
		87
<u>First Year</u>		<u>Fall</u> <u>Spring</u>
GEA 106	Chemistry	3 -
GEA 115	Biology	3 -
GEB 202	Psychology	- 3
GED 101	English Composition	3 -
GED 107	Algebra	3 -
GED 152	Interpersonal Communication	- 3
AHC 141	Intro. to Physiology & Human Anatomy	- 4
MICRO 201	Microbiology	- 4
CTC 107A	Applied Physics	- 3
***AHC	Elective	3 3
		<u>15</u> <u>20</u>
<u>Second Year*</u>		<u>Fall</u> <u>Spring</u>
AHC 203	Principles of Respiratory Therapy	5 -
AHC 213	Respiratory Therapy Exercises	1 -
AHC 223	Patient Care Techniques	2 -
AHC 243	Cardiopulmonary Physiology	3 -
AHC 253	Clinical Practice I	1 -
AHC 263	Principles of Mechanical Ventilation	- 3
AHC 273	Mechanical Ventilation Laboratory	- 1
AHC 283	Survey of Pulmonary Diseases	3 -
AHC 293	Clinical Practice II	- 2
AHC 323	Respiratory Pathophysiology	- 3
AHC 343	Neonatal/Pediatric Respiratory Care	- 2
AHC 363	Pulmonary Evaluation and Monitoring	- 3
		<u>15</u> <u>14</u>
		<u>Summer</u>
AHC 300	Trends and Issues in Allied Health	3
AHC 313	Pharmacology	3
		<u>6</u>
<u>Third Year</u>		<u>Fall</u>
AHC 353	Clinical Internship	8
AHC 373a	Clinical Practice III - Special Procedures	2
AHC 353b	Clinical Practice III - Research Project	2
		<u>12</u>

***AHC electives (six credit hours) must be approved by the respiratory therapy advisor.

SEE ALLIED HEALTH CAREER SPECIALTIES

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, Foreign Language and International Trade, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) has the option to earn proficiency credit through taking a proficiency exam in Latin at the Testing Center or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. The Foreign Language Department will honor CLEP exams in French, German and Spanish. As an alternative or for additional credit, students who can enter at the 200 level or above are encouraged to take a validating course. Since credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment and career possibilities that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas where language proficiency is a supporting factor, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
RUSS 136a,b	Elementary Russian ²	4	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	2	-
MATH or CS	Math or Computer Science ⁴	-	3
RUSS 201a,b	Intermediate Russian ³	4	4
Elective		-	3
		<u>15</u>	<u>16</u>

*See also Foreign Language Education under the College of Education.

¹ See General Education for the Transfer Student.

² Two semesters (generally eight hours) of a foreign language are required for all Liberal Arts students who entered college during Fall 1978 or later. However, four of these hours may be used for GEC credit. The first year of Russian does not count toward the major.

³ Required by major. Students with more than one year of high school Russian should take at least one substantial course in the Russian major each semester.

⁴ One of these courses may be used to partially fulfill the Liberal Arts requirements for students beginning college anywhere Fall 1978 or later.

Russian As A Major

A major in Russian consists of 36 semester hours in courses above the 100 level with a minimum of 12 hours on the 300 level, 12 hours on the 400 level including at least one literature course, and 4 hours of 300 or 400 level Russian electives. A minor in Russian consists of 18 semester hours in courses above the 100 level.

Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Interpreter, Continuity Writer, Copywriter, Correspondent, Critical Writer, Editorial Writer, Feature Writer, Program Assistant.

SOCIAL STUDIES
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Billy Dixon, Chairperson
Telephone - 618-536-2441
Wham Building, Room 327

A major in Social Studies may be pursued through the Department of Curriculum, Instruction and Media in the College of Education. Course work includes the areas of history, political science, economics, geography, and anthropology - psychology - sociology. Such a major is designed to prepare individuals for teaching in junior and senior high schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
*GEA 330	Weather	-	3
*GEB 104	The Human Experience: Anthropology	3	-
*GEB 114	American Government & Politics ²	3	-
*GEB 202	Introduction to Psychology ²	3	-
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ^{1,2}	-	3
GED 153	Public Speaking ²	-	3
GEE 201	Healthful Living ²	-	2
*POL SCI 213 or HIST 205A	State and Local Government History of Western Civilization	- -	3 3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
*GEB 301	U.S. History ²	-	3
GEC	Humanities (select) ¹	3	-
GEC	English Humanities Elective (required) ²	-	3
GED 107	Intermediate Algebra	3	-
GEE	Activity Course	-	2
*ECON 214	Introduction to Macroeconomics	-	3
*SOC 301	Principles of Sociology	-	4
HIST 205B	History of Western Civilization	3	-
*HIST 300	Origins of Modern America, 1492 to 1877 ²	3	-
		<u>15</u>	<u>15</u>

*Required courses in Social Studies.

¹ Refer to the section General Education for the Transfer Student.

² Required courses for teacher certification include: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, U.S. History; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

Social Studies As A Major

Students should be aware of requirements for entrance into the Teacher Education Program.

SOCIAL WORK

School of Social Work
College of Human Resources
(Bachelor of Science)

Director
Telephone - 618-453-2243
Quigley Hall, Room 4

The School of Social Work at SIUC offers a professional accredited curriculum which is designed to meet the educational needs of students with career interests in the human services field. It leads to a Bachelor of Science degree in Social Work. The curriculum provides an interdisciplinary approach to understanding man in contemporary society, basic social problems, and some of the issues associated with the prevention and treatment of these problems. Students are helped to understand the principles and basic skills employed in developing and delivering services to individuals, families, groups, and communities. Students are prepared for direct service practice in both rural and urban settings. Positions in child welfare, gerontology, mental health, health services, women's programs, public and private social service agencies are typically available to graduates.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 108	Sociological Perspective ²	-	3
GEB 211	Contemporary Economics	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health & Well Being (Activity) ¹	-	2
		<u>15</u>	<u>14</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA 115	Biology ²	3	-
GEB 202	Introduction to Psychology ²	3	-
GEB 212	Intro to American Government & Politics ²	-	3
GEC	Humanities (select) ¹	3	-
GED 152	Interpersonal Communication or Public Speaking	-	3
GEE 107, or 201 or 236	Human Health & Well Being (select) ¹	2	-
Electives	or Courses for Minor	<u>5</u>	<u>9</u>
		<u>16</u>	<u>15</u>

¹To determine what courses may be taken to satisfy the General Education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Students are required to take these Area A and B courses.

Third and Fourth Years

The last two years of a student's program concentrate on specific professional objectives.

A unique aspect of the Social Work program is an intensive field practicum. The practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the "real world" settings of Southern Illinois social services agencies. A concurrent weekly seminar supports this integration of theory and practice.

Representative First Job Titles: Social Worker, Social Welfare Aide, Rehabilitation Counselor, Casework Assistant, Neighborhood Worker, Residential Welfare Facilitator, School Counselor, Employment Aide, Cooperative Extension Service Worker, Recreation Worker, Alcoholism & Drug Addiction Counselor, Child Placement Agent, Community Planning & Redevelopment Expert, Probation and Parole Officer, Case Aide, Medical Social Worker, Outreach Worker, Residential Care Worker, Mental Health Worker, Activities Director.

Sociology is the science of society. It explains how human groups, institutions and social movements shape our lives. Sociology has always been a discipline which prepares students to think and act critically in the practical details of life. Sociology students, therefore, study such topics as sex roles, the city, juvenile delinquency, marriage and the family, criminology, social change, complex organizations, power and social inequality.

Training in Sociology is basic both to creative living and to such practical tasks as the development and effective working of businesses, families, community service agencies, political movements and parties, churches, social clubs, government, industry and schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	3	-
GEE	Human Health and Well Being (select) ¹	2	2
MATH or CS	Math or Computer Science ²	-	3
Elective ³		3	-
		<u>14</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
FL	Foreign Language ⁴	4	4
SOC 301	Principles of Sociology ⁵	-	4
Elective ³		3	3
		<u>16</u>	<u>14</u>

¹ See General Education for the Transfer Student.

² One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

³ Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

⁴ Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁵ Required for the sociology major.

Sociology As A Major

The Department of Sociology offers two alternative plans of study for completion of its major.

General Sociology is for those seeking a broad academic background in sociology and is usually chosen either by those who want a general liberal arts education in the social sciences or those anticipating graduate study in one of the social sciences. Applied Sociology combines the general program in sociology with individually planned programs built around applied courses and field work experience. This program is designed to give people actual experience in a variety of applied settings and to enhance mastery of specific skills sought by employers. Such employers might include research institutes, women's centers, senior citizen centers and community planning agencies.

Representative First Job Titles: Administrative Aide (Gov't), Business Management Officer, Child Care Worker, Corrections/Parole Officer, Community Relations Personnel, Gerontologist, Labor Relations Specialist, Public Survey Analyst, Social Analyst, Social Stratification Analyst, Teacher, Urban Planner, Administrative Aide.

SPANISH*
College of Liberal Arts
(Bachelor of Arts)

Dr. Margaret E. Winters, Chair
Telephone - 618-536-5571
Faner Building, Room 2162

Programs of study in foreign languages leading to the Bachelor of Arts degree (with or without teacher certification) are offered in Classics, Foreign Language and International Trade, French, German, Russian, and Spanish. There is also a special major in East Asian Studies leading to the Bachelor of Arts degree for students who have a professional or occupational interest in Asia.

Students majoring in a foreign language usually begin at the second or third level. The student who has taken two years of one foreign language in high school (or equivalent) has the option to earn proficiency credit through taking a proficiency exam in Latin at the Testing Center or in Chinese, Greek, Japanese, Russian, at the Foreign Languages and Literatures Department. The Foreign Language Department will honor CLEP exams in French, German and Spanish. As an alternative or for additional credit, students who can enter at the 200 level or above are encouraged to take a validating course. Since credit of up to 16 hours is available, such students are in an advantageous position to complete a double major.

In addition to the personal satisfaction and substantial growth in intellectual resources that come with mastery of a new language, there are numerous types of employment that are opened up by appropriate training in foreign languages. These can be classified as: 1) employment in non-language areas, and 2) language-centered careers. Government agencies (federal, state, and many local), and businesses that have international dealings, employ great numbers of individuals on the basis of skills that are basically non-linguistic (scientists, engineers, librarians, social workers).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	2	-
SPAN 140a,b	First-year Spanish ²	4	4
		<u>15</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC	Humanities (select) ¹	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select) ¹	-	2
MATH or CS	Math or Computer Science ⁵	-	3
SPAN 201a,b	Second-year Spanish ³	3	3
SPAN 220a,b	Spanish Conversation ⁴	2	2
		<u>14</u>	<u>16</u>

*See also the program under the College of Education.

¹ See General Education for the Transfer Student.

² Two semesters (generally eight hours) of a foreign language are required for all Liberal Arts students who entered college during Fall 1978 or later. However, four of these hours may be used for GEC credit. The first year of Spanish does not count towards the major. Spanish 175-5 may substitute for 140 a,b.

³ Required by the major. Spanish 275-5 may substitute for 201 a,b. Students with more than one year of high school Spanish should take at least one substantial course in the Spanish major each semester.

⁴ Only one semester of Intermediate Conversation may count toward the major.

⁵ One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Spanish As A Major: A major in Spanish consists of 36 semester hours in courses above the 100 level including 306, 320 and 415, plus any combination of 300 or 400 level courses which includes a literature course and at least nine additional 400 level hours.

A minor in Spanish consists of 18 hours in courses above the 100-level.

Transfer students who major in a foreign language must complete a minimum of 12 semester hours in language courses at SIUC.

Representative First Job Titles: Airline Stewardess, Customer Services Personnel, Public Relations Officer, Publications Personnel, Executive Secretary, Announcer, Continuity Writer.

SPECIAL EDUCATION
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Norma Ewing, Chairperson
Telephone - 618-453-2311
Pulliam Hall, Room 127

In the Department of Special Education, teachers are prepared to work with behaviorally disordered, mentally retarded, and learning disabled children. Students seeking the Standard Special Certificate will complete a 120 semester hour program leading to approval in one of the three handicap areas listed above. Students who wish to obtain joint certification in special education and elementary education must complete a 144 to 149 hour program.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 301	U.S. History ¹	3	-
GEC 101	Introduction to Art	-	3
GED 101	English Composition ²	3	-
GED 102	English Composition II ²	-	3
GEE 201	Healthful Living ²	-	2
GEE	P.E. Activity ^{1,2}	2	-
MATH 114	Algebraic & Arithmetic Systems	4 (3)	-
Electives		-	3
		15 (14)	14
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Science (select) ¹	-	3
GEB 114	American Government ²	-	3
GEB 202	Introduction to Psychology ²	3	-
GEC	Humanities (select) ¹ (Non-Western Civilization)	3	-
GEC	Literature (select) ^{1,2}	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking ²	3	-
MUS 101	Music Fundamentals	3	-
PSYC 301	Child Psychology	-	3
MATH 314	Topics in Mathematics for Elementary Teachers	3	-
		15	15

¹ Refer to the section General Education for the Transfer Student.

² The following are required courses for teacher certification: GEB 202, Introduction to Psychology; GEB 114, American Government and Politics; GEB 301, History of the United States; Music 101, Fundamentals of Music for GEC (substitution); GED 101, English Composition; GED 102, English Composition II; GED 152, Interpersonal Communication or GED 153, Public Speaking; GEE 201, Healthful Living; and one additional English course (GEC or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

Many careers demand the ability to communicate well. The Department of Speech Communication with 16 professors, many having national and international scholarly reputations, teaches a wide range of courses in the history, theory and successful use of communication. The Department also sponsors co-curricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students on the debate and forensics teams travel regularly, and are ranked among the best in national competition. The creative drama students bring their talents to schools throughout Southern Illinois.

The Communication Arts and Studies specialization provides students with strong basic communication skills, and the opportunity to structure much of their majors to their own tastes. Enough open electives remain for students who wish a second major.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	3	3
GEC	Humanities (select) ¹	3	-
*GEC 200	Oral Interpretation of Literature	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Human Health and Well Being (Activity)	-	2
Electives		3	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB	Social Studies (select) ¹	3	-
GEC	Humanities (select) ¹	3	-
GED 107	Intermediate Algebra	-	3
GEE	Human Health and Well Being (select) ¹	-	2
*SPCM 221	Advanced Public Speaking	3	-
*SPCM 230	Introduction to Communication Theory	3	-
*SPCM 262	Interpersonal Communication II	-	3
Electives		3	4
		<u>15</u>	<u>15</u>

*Departmental requirements.

¹ Refer to section General Education for the Transfer Student

Secondary students and community college students are encouraged to take part in as much speech activity work as possible prior to entering SIUC. Those who are interested in specializing in oral interpretation should also take as many literature courses as possible. Those students interested in other aspects of oral communication should take elective work in high school or at the community college in the social science areas.

Speech Communication As A Major

No minor required; no foreign language required.

The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Graduate degrees (M.A., M.S., and Ph.D.) are available in Speech Communication. Students choose electives to build desired specialization.

Representative First Job Titles: Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

SPEECH COMMUNICATION
 (Communication Education)
 College of Communications and Fine Arts
 College of Education
 (Bachelor of Science)

Jay Moorman, Advisement
 Telephone - 618-453-1895
 Communications Building, Room 2019

Jacquelyn Bailey
 Chief Academic Advisor
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

Many careers demand the ability to communicate well. The Department of Speech Communication, with 16 professors, many having national and international scholarly reputations, teaches a wide range of courses in the history, theory and successful use of communication. The Department also sponsors co-curricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students on the debate and forensics teams travel regularly, and are ranked among the best in national competition. The creative drama students bring their talents to schools throughout Southern Illinois.

The Communication Education specialization meets the Illinois requirements for teaching certification in speech at the secondary level. Students have the opportunity to take a minor, thus gaining a second teaching area.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114 or 301	Introduction to American Government and Politics or U.S. History	-	3
GEB 202	Introduction to Psychology	3	-
*GEC 200	Oral Interpretation of Literature	-	3
*GEC 203	Introduction to Theater	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
*GED 153	Public Speaking	-	3
GE-E	Human Health and Well Being--Activity	1	2
GEE 201	Healthful Living	2	-
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Studies (select) ¹	-	3
GEC	English in Humanities (select) ¹	-	3
GED 107	Intermediate Algebra	3	-
*SPCM 221	Advanced Public Speaking	3	-
*SPCM 230	Introduction to Communication	3	-
*SPCM 261	Small Group Communication	-	3
*SPCM 262	Interpersonal Communication II	-	3
Electives		3	3
		<u>15</u>	<u>15</u>

*Departmental requirements.

¹ Refer to section General Education for the Transfer Student

College of Education requires for certification: GEB 202; GEB 114 or 301; GED 101; GED 102; GED 153; GED 100-114 (2 hours), GEE 201; and one additional English course from GEC, GED or department.

Speech Communication As A Major

A student interested in the major should be aware of the requirements for entrance into the Teacher Education Program. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

SPEECH COMMUNICATION

(Oral Interpretation)
College of Communications and Fine Arts
(Bachelor of Science)

Jay Moorman, Advisement
Telephone - 618-453-1895
Communications Building, Room 2019

Many careers demand the ability to communicate well. The Department of Speech Communication, with 16 professors, many having national and international scholarly reputations, teaches a wide range of courses in the history, theory and successful use of communication. The Department also sponsors co-curricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students on the debate and forensics teams travel regularly, and are ranked among the best in national competition. The creative drama students bring their talents to schools throughout Southern Illinois.

Oral Interpretation majors often pursue careers in theater, radio and television, and publishing. The Calipre Stage, which has regular productions and reading hours, provides a place for students and faculty to perform.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Studies (select) ¹	-	3
*GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	-
*GEC 200	Oral Interpretation of Literature	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE 103d	Dance (Beginning Contemporary)	2	-
Electives		<u>3</u>	<u>2</u>
		17	17
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Studies (select) ¹	3	-
GEC	Humanities (select) ¹	-	3
GED 107	Intermediate Algebra	-	3
GEE 107 or 201 or 236	Human Health and Well Being (select)	-	2
*SPCM 221 or 261	Advanced Public Speaking or Small Group Communication	3	-
*SPCM 262	Interpersonal Communication II	3	-
*THEA 213	Stage Movement	2	-
*THEA 217	Acting	-	2
*ENG LIT	Recommended by Department	-	3
Electives		<u>3</u>	<u>3</u>
		17	16

*Departmental requirements.

¹ Refer to section General Education for the Transfer Student

Secondary students and community college students are encouraged to take part in as much activity work as possible prior to entering SIUC. Those who are interested in specializing in oral interpretation should also take as many literature courses as possible. Those students interested in other aspects of oral communication should take elective work in high school or at the community college in the social science areas.

Oral Interpretation (Speech) As A Major

No minor required; no foreign language required. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Graduate degrees are available in Speech Communication. Students choose electives to build desired specialization.

Representative First Job Titles: Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

SPEECH COMMUNICATION

(Public Relations)
College of Communications and Fine Arts
(Bachelor of Science)

Jay Moorman, Advisement
Telephone - 618-453-1895
Communications Building, Room 2019

Many careers demand the ability to communicate well. The Department of Speech Communication, with 16 professors, many having national and international scholarly reputations, teaches a wide range of courses in the history, theory and successful use of communication. The Department also sponsors co-curricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students on the debate and forensics teams travel regularly, and are ranked among the best in national competition. The creative drama students bring their talents to schools throughout Southern Illinois.

Public Relations students are prepared to accept positions in such areas as public relations, advertising, marketing, government relations and sales. The Pyramid Public Relations Agency, run by students in the program under faculty supervision, gives students practical experience in applying what they have learned. The Department also encourages internships and practicums.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114	Intro. to American Gov't & Politics	-	3
*GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
*GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being - Activity	-	2
*SPCM 281	Introduction to Public Relations	-	3
		<u>15</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEC 200	Intro to Oral Interpretation (recommended)	-	3
GED 107	Intermediate Algebra	3	-
GEE 201	Healthful Living	2	-
*ECON 214 or GEB 211	Macroeconomics or Intro to Economics	-	3
*JRNL 300	Mass Media in Modern Society	-	3
*JRNL 310	Writing for the Mass Media	-	3
*R&T 200	Understanding Radio and Television	-	3
SPCM 261	Small Group Communication	-	-
SPCM 280	Business & Professional Communication	3	-
*SPCM 326	Persuasion	3	-
		<u>14</u>	<u>15</u>

*Departmental requirements.

¹ Refer to section General Education for the Transfer Student

NOTE: Students must demonstrate proficiency in typing at least 30 words per minute.

Public Relations (Speech Communication) As A Major

The public relations specialization is an interdisciplinary program with a focus on communication studies designed with the assistance of and approved by the Public Relations Society of America. The Speech Communication Department uses direct advisement of all new, transfer, and continuing students.

Membership in the Raymond D. Wiley Chapter of the Public Relations Society of America provides opportunities for internships, field trips, job placement, involvement in on- and off-campus public relations projects and association with professional practitioners.

Representative First Job Titles: Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer, Account Executive, and Legislative Assistant.

SPEECH COMMUNICATION*College of Liberal Arts
(Bachelor of Arts)Don Jones, Advisement
Telephone - 618-453-2291
Communications Building, Room 2002

Many careers demand the ability to communicate well. The Department of Speech Communication, with 16 professors, many having national and international scholarly reputations, teaches a wide range of courses in the history, theory and successful use of communication. The Department also sponsors co-curricular activities in debate, forensics, oral interpretation, creative drama and public relations. Students on the debate and forensics teams travel regularly, and are ranked among the best in national competition. The creative drama students bring their talents to schools throughout Southern Illinois.

Students who desire a B.A. instead of a B.S. degree take the same speech communication courses as students in the Communication Arts and Studies specialization, as well as the supplemental requirements of the College of Liberal Arts.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB	Social Science (select) ¹	3	3
GEC	Humanities (select) ¹	-	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GED	Math (select) ¹	-	3-4
GEE	Human Health and Well Being (select) ¹	2	2
Elective ²		2	-
		<u>16</u>	<u>14-15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	-	3
GEC 200	Oral Interpretation of Literature	3	-
FL	Foreign Language ⁴	4	4
MATH or CS	Math or Computer Science ⁵	3	-
SP 221	Advanced Public Speaking ³	3	-
SP 261	Small Group Communication	-	3
Electives ²		-	3
		<u>16</u>	<u>16</u>

*This is not a professional concentration, but a liberal arts concentration. See also the programs under the College of Communications and Fine Arts and the College of Education.

¹To determine what courses may be taken to satisfy the general education requirements for this program, please refer to the section, General Education for the Transfer Student.

²Elective hours should be used to explore areas of interest and to enhance career opportunities; or courses may be selected to satisfy Liberal Arts requirements (see College of Liberal Arts section).

³Required by the major.

⁴Two semesters (which is generally eight hours) of a foreign language are required for all Liberal Arts students who entered college anywhere Fall 1978 or later. However, four of these hours may be used for GEC credit.

⁵One of these courses may be used to partially fulfill the Liberal Arts requirement for students beginning college anywhere Fall 1978 or later.

Representative First Job Titles: Technical Writer, Visitors' Guide, Communications Specialist, Advertising Agent, Editor, Public Information Officer, Public Relations Officer, Publications Staff, Personnel Interviewer, Publicity Staff, Newspaper Reporter, Radio Announcer, Speech Writer, Manufacturer's Representative, Salesperson, Newscaster, Television Announcer.

THEATER

(Acting-Directing)
(Design-Technical)
(Playwriting-Dramatic Literature)
College of Communications and Fine Arts
(Bachelor of Arts)

Christian H. Moe, Chairperson
Telephone - 618-453-5741
Communications Building, Room 1033

The Department of Theater blends scholarship and practice into an academically based theater experience preparing the student for a career in professional, educational or community theater, as well as establishing a solid academic foundation for many complementary fields. The extensive production schedule in two theaters--a proscenium house, the McLeod Theater, seating 580 and a flexible Laboratory Theater seating about 100--provides training in all aspects of theater, augmented by courses in acting, voice, movement, directing, playwriting, design and technical theater. Courses in theater history, dramatic theory and criticism and specialized courses, e.g., children's theater and theater management, complement the program. The production schedule is extensive enough to allow students the opportunity to design sets, lights, costumes, and to write, act and direct for these productions. Seminars in international and ethnic theater and drama coordinated with on-going research projects and visits of artists-in-residence enhance the total experience.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	-	3
GEB	Social Studies (select)	3	-
GEC	Humanities (select)	-	3
GEC 103	Introduction to Theater	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Public Speaking or Interpersonal Communication	3	-
THEA 203a or	Introduction to Voice & Movement or		
THEA 218a	Stagecraft: Scenery	3	-
THEA 217	Beginning Acting	-	3
		<u>15</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
GEB	Social Studies (select)	3	3
GEC	Humanities (select)	-	3
GEA/B/or C	(select)	3	-
GEE	(select) ¹	2	2
THEA 203b	Voice for the Actor	-	3
THEA 218b,c	Stagecraft: Lighting, Costumes	3	-
THEA 300	Production	1	1
		<u>15</u>	<u>15</u>

¹ Refer to the section General Education for the Transfer Student.

Theater As A Major

No minor is required. The Department of Theater also offers the M.F.A. degree with specializations in design and playwriting. Doctoral studies in theater are sponsored by the Department of Speech Communication.

During the academic year, four productions (three plays, one opera, or musical) are performed in the McLeod Theater and numerous original one-act plays and other shows are produced in the Laboratory Theater.

Each summer, a resident stock company produces one play and two musicals in the McLeod Theater and members of the Playwrights' Workshop produces four original plays in the Laboratory Theater.

The heavy production schedule provides many opportunities for practical experience in all aspects of theater.

Scholarships are available.

Representative First Job Titles: Costume Designer, Sound Effect Technician, Theater Drafting Technician, Sales (Corporate), Lighting Effect Technician, Scenery Technician, Costume Technician, Performing Artist, Choreographer (Dance Composer), Makeup Specialist, Actor/Actress, Publicist, Theater Instructor, Travel Coordinator, Scene Designer, Playwright.

TOOL AND MANUFACTURING TECHNOLOGY

(Machine Tool--Numerical Control)

College of Technical Careers

(Associate in Applied Science)

Philip Tregoning

Program Coordinator

Telephone - 618-985-4110

Cartersville Campus

This specialization offers students extensive experience in a well-equipped machine shop with the training necessary to set up and operate engine lathes, turret lathes, mills, grinders, cut-off saws, and drilling machines. The students will enhance the basic tool room and production skills learned by applying their skills to produce various forms of shop tooling, jigs, fixtures, blanking dies, progressive dies, form dies, compound dies, and produce specialized obsolete parts. Hands-on experience on numerical controlled machines, electrical discharge machines, computer aided mills, and computer aided lathes is a vital part of the training. In addition to machining skills, students learn to read blueprints, select material, layout and plan machining operations, use precision measuring tools, do basic heat treat operations on steel, design and test industrial type of electric, hydraulic, and pneumatic power circuits, and use the machinery handbook. General education courses such as mathematics, physics, speech, and English will also be studied. In this two-year program, a student receives approximately 1250 hours of practice in laboratories equipped with machines used in industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science Elective	-	3
GED 101	English Composition	-	3
CTC 105a,b	Technical Mathematics	4	-
TT 101	Basic Tool and Manufacturing Lab	6	-
TT 102	Milling Machine and Grinding Lab	-	6
TT 125	Introduction to Machine Tools	3	-
TT 126	Machinability of Metals, Milling, and Abrasive Machining	-	3
TT 185	Technical Sketching	3	-
TT 186	Jigs and Fixture Design	-	4
		16	19
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GED	Communication Elective (Technical Writing or Speech)	-	2
CTC 107a,b	Applied Physics	4	-
TT 208	Computer Assisted NC Programming	4	-
TT 210	Numerical Control, Electrical Discharge Machines	7	-
TT 211	Advanced Numerical Control, Tool and Die, and Production Machining	-	7
TT 220	Numerical Control, Inspection Practices, and EDM	3	-
TT 221	Tool and Die, Production Machining, & Process Planning	-	3
TT 225	Principles & Processes in Modern Manufacturing	-	2
TT 275	Ferrous Metallurgy	2	-
TT 276	Tool Steel Metallurgy	1	2
		21	16

Tool And Manufacturing Technology As A Major

This program offers students the opportunity to develop their technical capabilities on a variety of modern machine tools, computer-aided machines, state of the art welding processes, and testing equipment. The faculty members have broad experience in education and industry. Tool and manufacturing technology majors are offered a choice of three specializations: Machine Tool (Numerical Control), Metal Fabrication and Processes, and Tool Design. The successful graduate of the program may work as a tool and manufacturing technician who functions in the industrial area between the mechanical and manufacturing engineering and the skilled craftsperson. The technician has the technical background required to work with engineers in research; development and testing, plus the skills in metal cutting and fabrication that give him/her the abilities of a tool maker, machinist, welder, or tool designer. The technician may run tests on experimental equipment and material, alter and fabricate pilot models of equipment, build jigs, fixtures, dies or operate and supervise operation of machine tools and fabricating equipment. Students spend about \$100 for tools, instruments and supplies. A student chapter of the Society of Manufacturing Engineers gives its members an early start in the development of their careers. The curriculum is designed to accept both beginning freshmen and transfer students. By proficiency, it is possible to earn credit for previous industrial experience.

Bachelor of Science Degree Options at SIUC

Graduates of the Associate in Applied Science degree program in Tool and Manufacturing Technology have options in bachelor's degree programs that add to the associate degree specialization. These include Advanced Technical Studies in the College of Technical Careers, Industrial Technology, and Vocational Education Studies. Students pursuing these degrees will have an opportunity to add to their associate degree specialization.

Representative First Job Titles: Tool Maker, Laboratory Technician, Mold Maker, Tool Designer, Instrument Maker, Machine Builder, Welder, Die Maker, Inspector, CNC Programmer, NC Programmer, Shop Foreman, Process Planner, Model Maker, Production Supervisor, Testing Technician, Shop Owner, Fabrication Technician, Machinist, Certified Pipe Welder, Tool Technician, and Material Testing Technician.

TOOL AND MANUFACTURING TECHNOLOGY
(Metal Fabrication and Processes)
College of Technical Careers
(Associate in Applied Science)

Philip Tregoning
Program Coordinator
Telephone - 618-985-4110
Carterville Campus

This specialization combines machine shop training with training in welding and fabrication. The machine shop classes will equip the student with the skills necessary to set up and operate lathes, shapers, mills, grinders, cutoff saws, and drilling machines. The welding classes will provide adequate laboratory time for the student to develop skills in many industrial welding and cutting processes including oxy acetylene, shielded metal arc, gas metal arc, gas tungsten arc, cored wire, and submerged arc welding, oxy-acetylene cutting, air carbon arc cutting, and plasma arc cutting. In addition to welding and machining skills, students learn to read blueprints, select materials, layout and cost estimating, use precision and nonprecision tools, do basic heat treat operations, and perform destructive and nondestructive weld tests. General education courses such as mathematics, physics, speech, and English will also be studied. In this two-year program, a student receives approximately 1250 hours of practice in laboratories equipped with machine tools, welding equipment and testing equipment used in industry.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GED 101	English Composition	-	3
CTC 105a,b	Technical Mathematics	-	4
TT 101	Basic Tool and Manufacturing Lab	6	-
TT 102	Milling Machine and Grinding Lab	-	6
TT 125	Introduction to Machine Tools	3	-
TT 126	Machinability of Metals, Milling, and Machining	-	3
TT 180, 181	Welding I and II	3	3
TT 185	Technical Sketching	3	-
		<u>15</u>	<u>19</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science Elective	-	3
GED	Communication Elective (Technical Writing or Speech)	-	2
CTC 107a,b	Applied Physics	4	-
TT 182	Welding III	3	-
TT 183	Welding Blueprint Reading	2	-
TT 225	Principles & Processes in Modern Manufacturing	-	2
TT 275, 276	Ferrous and Tool Steel Metallurgy	2	2
TT 310	Welder Qualification	6	6
		<u>17</u>	<u>15</u>

Tool And Manufacturing Technology As A Major

This program offers students the opportunity to develop their technical capabilities on a variety of modern machine tools, computer-aided machines, state of the art welding processes, and testing equipment. The faculty members have broad experience in education and industry. Tool and manufacturing technology majors are offered a choice of three specializations: Machine Tool (Numerical Control), Metal Fabrication and Processes, and Tool Design. The successful graduate of the program may work as a tool and manufacturing technician who functions in the industrial area between the mechanical and manufacturing engineering and the skilled craftsman. The technician has the technical background required to work with engineers in research, development and testing, plus the skills in metal cutting and fabrication that give him/her the abilities of a tool maker, machinist, welder, or tool designer. The technician may run tests on experimental equipment and material, alter and fabricate pilot models of equipment, build jigs, fixtures, dies or operate and supervise operation of machine tools and fabricating equipment. Students spend about \$100 for tools, instruments and supplies. A student chapter of the Society of Manufacturing Engineers gives its members an early start in the development of their careers. The curriculum is designed to accept both beginning freshmen and transfer students. By proficiency, it is possible to earn credit for previous industrial experience.

Bachelor of Science Degree Options at SIUC

Graduates of the Associate in Applied Science degree program in Tool and Manufacturing Technology have options in bachelor's degree programs that add to the associate degree specialization. These include Advanced Technical Studies in the College of Technical Careers, Industrial Technology, and Vocational Education Studies. Students pursuing these degrees will have an opportunity to add to their associate degree specialization.

Representative First Job Titles: Tool Maker, Laboratory Technician, Mold Maker, Tool Designer, Instrument Maker, Machine Builder, Welder, Die Maker, Inspector, CNC Programmer, NC Programmer, Shop Foreman, Process Planner, Model Maker, Production Supervisor, Testing Technician, Shop Owner, Fabrication Technician, Machinist, Certified Pipe Welder, Tool Technician, and Material Testing Technician.

TOOL AND MANUFACTURING TECHNOLOGY

(Tool Design)
College of Technical Careers
(Associate in Applied Science)

Philip Tregoning
Program Coordinator
Telephone - 618-985-4110
Carterville Campus

This specialization is unique in that it equips the tool design student with basic machining and welding skills so that he/she is better able to design tools, dies, jigs, and fixtures that incorporate the most practical and economical production processes. The student also studies product drafting and design. He/she learns to be accurate and detailed in his/her work; to become familiar with applications of American National Standard Institute drawing standards; to become competent in detailing in tool, die, and mold design. Students will also receive coursework in computer aided design. General education courses such as mathematics, physics, speech, and English will also be studied. In this two-year program, a student receives approximately 1250 hours of practice in laboratories equipped with machines tools, welding equipment, drafting equipment and computer aided design equipment.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB	Social Science Elective	-	3
GED 101	English Composition	-	3
CTC 105a,b	Technical Mathematics	4	-
TT 101	Basic Tool and Manufacturing Lab	6	-
TT 102	Milling Machine and Grinding Lab	-	6
TT 125	Introduction to Machine Tools	3	-
TT 126	Machinability of Metals, Milling, and Abrasive Machining	-	3
TT 180	Welding I	-	3
TT 185	Technical Sketching	3	-
TT 186	Jig and Fixture Design	-	4
		<u>16</u>	<u>22</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GED	Communication Elective (Technical Writing or Speech)	-	3
CTC 107a,b	Applied Physics	4	-
TT 181	Welding II	3	-
TT 208	Numerical Control Programming	4	-
TT 225	Principles & Processes in Modern Manufacturing	-	2
TT 230	Tool Design I	7	-
TT 231	Tool Design II	-	7
TT 240	Jig, Fixture, Gage Design Theory (elective)	-	-
TT 241	Die Design Theory	-	3
TT 275	Ferrous Metallurgy	2	-
TT 276	Tool Steel Metallurgy	-	2
		<u>20</u>	<u>17</u>

Tool And Manufacturing Technology As A Major

This program offers students the opportunity to develop their technical capabilities on a variety of modern machine tools, computer-aided machines, state of the art welding processes, and testing equipment. The faculty members have broad experience in education and industry. Tool and manufacturing technology majors are offered a choice of three specializations: Machine Tool (Numerical Control), Metal Fabrication and Processes, and Tool Design. The successful graduate of the program may work as a tool and manufacturing technician who functions in the industrial area between the mechanical and manufacturing engineering and the skilled craftsperson. The technician has the technical background required to work with engineers in research, development and testing, plus the skills in metal cutting and fabrication that give him/her the abilities of a tool maker, machinist, welder, or tool designer. The technician may run tests on experimental equipment and material, alter and fabricate pilot models of equipment, build jigs, fixtures, dies or operate and supervise operation of machine tools and fabricating equipment. Students spend about \$100 for tools, instruments and supplies. A student chapter of the Society of Manufacturing Engineers gives its members an early start in the development of their careers. The curriculum is designed to accept both beginning freshmen and transfer students. By proficiency, it is possible to earn credit for previous industrial experience.

Bachelor of Science Degree Options at SIUC

Graduates of the Associate in Applied Science degree program in Tool and Manufacturing Technology have options in bachelor's degree programs that add to the associate degree specialization. These include Advanced Technical Studies in the College of Technical Careers, Industrial Technology, and Vocational Education Studies. Students pursuing these degrees will have an opportunity to add to their associate degree specialization.

Representative First Job Titles: Tool Maker, Laboratory Technician, Mold Maker, Tool Designer, Instrument Maker, Machine Builder, Welder, Die Maker, Inspector, CNC Programmer, NC Programmer, Shop Foreman, Process Planner, Model Maker, Production Supervisor, Testing Technician, Shop Owner, Fabrication Technician, Machinist, Certified Pipe Welder, Tool Technician, and Material Testing Technician.

UNIVERSITY STUDIES
Undergraduate Academic Services
(Bachelor of Arts)
(Bachelor of Science)

University Studies
Baccalaureate Program
Undergraduate Academic Services
Telephone - 618-453-5506
Woody Hall, C-117

The University Studies Baccalaureate Program is a degree program for students who are interested in designing a multi-disciplinary, interdisciplinary program of study.

In University Studies, the student can pursue either a Bachelor of Arts or a Bachelor of Science degree. The Bachelor of Arts requires passing one full year of a foreign language through coursework or proficiency examination.

Since the University Studies Program does not have an established curriculum, students use the resources of the entire University. For example, a person interested in arts management may combine fine arts courses with others in or related to business thereby gaining the necessary skills to manage a civic center or theater. A person wishing to attend law school might elect to combine political science, philosophy, history and business courses in preparation for the study of law. Other students opt to pursue a broad range of courses to complete the degree program.

To be admitted to the program, the student must have:

1. At least 24 semester hours passed.
2. No more than 90 semester hours passed.
3. A 2.25 grade point average (4.0 scale) in all college work taken.

To complete the program, the student must pass 40 semester hours at the senior level (300-400) with a 2.0 grade point average (4.0 scale) in those courses.

A student cannot exceed the program's prescribed limits on distribution of courses, either at entry or while in the program:

1. No more than 20 semester hours may be taken in any department or school within a college, over and above General Education requirements.
2. No more than 40 semester hours, in addition to General Education requirements, may be taken in any SIUC college or its equivalent in an institution from which the student has transferred. The following is the only exception:
3. In the College of Liberal Arts, as many as 27 semester hours may be taken from the Social Sciences area and 27 semester hours from the Humanities area.

A general model of a curriculum for a degree in University Studies might be:

1. General Education	46 sem. hrs.
2. Senior level courses (300-400)	40 sem. hrs.
3. Foreign language	8 sem. hrs. (for the B.A. only)
4. Other courses at any level	<u>26 sem. hrs.</u> (35 for the B.S.)
TOTAL	120 sem. hrs.

After admission to the University as an undecided student or in a major, a student interested in the University Studies Program should arrange an interview with the University Studies Advisor to determine eligibility. If criteria are met, the student can then be admitted to the program.

VOCATIONAL EDUCATION STUDIES

Business Education Specialization
(Teacher Certification)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Marcia Anderson-Yates
Coordinator
Telephone - 618-453-3321
Rehn Hall 113

Students admitted to the Undergraduate Teacher Education program in Business Education may select one of the following teaching areas: office education, accounting, data processing, general business/consumer education, and marketing. Two supplemental areas are also required.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Activity Course	2	-
GEB 114	American Government & Politics	3	3
		<u>17</u>	<u>15</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 211 or ECON 214	Contemporary Economics Introduction to Macroeconomics	3	-
GEB 301	U.S. History ¹	-	3
GEC	English Elective in Humanities (select) ¹	3	-
GEE 201	Healthful Living	2	-
SCR 101a	Keyboarding	3	-
VES 302	Communication in Business	-	3
ACT 220	Accounting I	3	-
VES 306	Introduction to Data Processing	-	3
GE	Electives	-	4
		<u>17</u>	<u>16</u>

¹ Refer to the section General Education for the Transfer Student.

Business Education As A Major

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 211, Contemporary Economics; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 152 or 153, Speech; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

Major Core Requirements: Accounting 220, Economics 214 or GE-B 211 (see above), Marketing 304, Secretarial and Office Specialties 101 a and b, Vocational Education Studies 302, 306 and 310.

VOCATIONAL EDUCATION STUDIES

Education, Training and Development Specialization
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. John Washburn, Chairperson
Vocational Education
Telephone - 618-453-3321
Wham Building, Room 146

Corporations spend billions of dollars each year to train employees and develop their management staffs. Non-business organizations, charitable organizations, schools, and universities are rapidly recognizing the need for trainers. Graduates of our programs have been employed by public and private organizations to take the lead in establishing training programs for vocational, technical, and professional staff.

The Education, Training and Development specialization prepares technically-trained persons for training and development positions in education, business, industry, labor, government and the military. Added to the student's technical training are general education courses in science, social science, humanities, communications, and professional or technical specialty. The student also will carry out work experiences, or internships, tailored to their specific career goals.

This specialization is not a certification program for teaching at the secondary level.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select)	3	3
GEB	Social Science (select) ¹	3	
GEB	Electives	-	3
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II ¹	-	3
GEE 201	Healthful Living	-	2
GEE	Human Health and Well Being - Activity	2	-
Elective		<u>2</u>	<u>2</u>
		16	16
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB	Social Science (select) ¹	3	-
GEC	Humanities (select) ¹	3	-
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Comm. or Public Speaking	3	-
GEA, B or C	Electives ¹	<u>3</u>	<u>6</u>
		15	12

¹Refer to the section General Education for the Transfer Student.

Refer to the Undergraduate Catalog for specific major requirements.

Special Note to Community College Personnel: The programs in education, training, and development and secondary school industrial education teaching and health occupations teaching require the equivalent of an associate degree in a technical specialty for admission. Transfer students who have completed a two-year associate in applied science (A.A.S.) degree program may qualify for our Capstone Program, in which the student makes a contract with SIUC and the Department of Vocational Education Studies that will give the student maximum credit for transfer work and guarantee the student's graduation with the completion of no more than 60 additional semester hours of work. Credit hours may also be awarded for work experience and for other post-secondary vocational training and coursework.

VOCATIONAL EDUCATION STUDIES

Health Occupations Education Specialization
(Teacher Certification)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Richard Bortz
Coordinator
Telephone - 618-453-3321
Faner Hall 4435

This specialization prepares persons with allied health and nursing specialty backgrounds for teaching health occupations in secondary schools.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
GED 152 or 153	Interpersonal Communication or Public Speaking	-	3
GEE	Physical Activity	2	-
GE	Electives ¹	2	4
		<u>16</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114	American Government	-	3
GEB 301	U.S. History	3	-
GEC	English Elective in Humanities (select) ¹	3	-
GEE 201	Healthful Living	-	2
GE or VES	Electives ¹	6	6
		<u>15</u>	<u>14</u>

¹ Refer to the section General Education for the Transfer Student.

Health Occupations Education As A Major

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 152, Interpersonal Communication or GED 153, Public Speaking; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

VOCATIONAL EDUCATION STUDIES
Home Economics Education Specialization
(Educational Services)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Phyllis Bubnas, Coordinator
Telephone - 618-453-3321
Baptist Student Center, Room 131

Home Economics today is concerned with human development, parenting, interpersonal relations, values, resource management, nutrition, and consumerism. Home economists are found not only in kitchens, nutrition labs, the fashion industry, and small speciality boutiques, but also in business and government offices, in juvenile services and programs for abused children, in community health agencies, and in public and private organizations that work to improve the quality of life.

This program prepares students for positions in agencies and businesses that develop informational materials, demonstrate products, coordinate conferences, and work with individual customers or clients. Graduates of this specialization move into business-related and communication careers that combine a knowledge of home economics with teaching skills. They may work in product development kitchens and laboratories of food companies, in consumer information offices, and in advertising or publicity departments for the promotion of products; as writers and educators of educational materials; or as free-lance consultants.

Teacher certification is not required for this specialization.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114 or 211	American Government and Politics or Contemporary Economics ²	3	-
GEC	Humanities (select) ¹	3	3
GEC 101	Introduction to Art ²	-	3
GED 101	English Composition	3	-
GED 102	English Composition II ¹	-	3
GEE	Human Health and Well Being (select) ¹	-	2
GEE 107 or 201			
or 236	Human Health and Well Being (Activity) ¹	2	-
GE	Electives	-	3
		<u>14</u>	<u>17</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	-
GEB 108	The Sociological Perspective ²	-	3
GEB 202	Introduction to Psychology ²	3	-
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
CIM 227	Marriage and Family Living	-	3
Electives		<u>6</u>	<u>6</u>
		<u>15</u>	<u>15</u>

¹ Refer to the section General Education for the Transfer Student.

² Required by the major.

Home Economics Education As A Major

A minor is not required. Foreign language is not required.

Graduate degrees available.

VOCATIONAL EDUCATION STUDIES
 Home Economics Education Specialization
 (Home Economics Extension)
 College of Education
 (Bachelor of Science)

Jacquelyn Bailey
 Chief Academic Advisor
 Teacher Education Services
 Telephone - 618-453-2354
 Wham Building, Room 135

Phyllis Bubnas, Coordinator
 Telephone - 618-453-3321
 Baptist Student Center, Room 131

Home Economics today is concerned with human development, parenting, interpersonal relations, values, resource management, nutrition, and consumerism. Home economists are found not only in kitchens, nutrition labs, the fashion industry, and small speciality boutiques, but also in business and government offices, in juvenile services and programs for abused children, in community health agencies, and in public and private organizations that work to improve the quality of life.

This program is designed to prepare persons for positions as Home Advisors, 4-H Club Agents or Advisors, and, with further training, extension specialists.

Extension develops youth-oriented projects, helps rural and urban families find solutions to everyday problems, and helps its clients to improve the quality of their lives. The extension home economist develops programs in a county, works with a variety of people and groups, provides home economics information by speaking to groups, appearing on radio and television and writing newspaper articles and newsletters, and conducts youth activity programs (4-H).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 108	The Sociological Perspective	3	-
GEB 114	American Government & Politics	-	3
GEC	Humanities (select)	3	-
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	3	-
CHEM 140a	Chemistry ²	-	4
F&N 215	Introduction to Nutrition	2	-
VES 320	Home Economics As A Profession	1	-
VES 338a	Clothing Construction	-	3
		<u>15</u>	<u>16</u>

<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GED 153	Public Speaking	3	-
GEE 201	Healthful Living	-	2
GEE	Activity	-	2
CIM 227	Marriage and Family Living	3	-
CIM 237	Child Development	-	3
F&N 256	Science of Food	5	-
VES 336	Survey of Clothing	-	3
		<u>17</u>	<u>16</u>

¹Refer to section General Education for the Transfer Student.

²Approved substitute for General Education.

Refer to Undergraduate Catalog for departmental requirements and requirements taught via General Education.

Home Economics Education As A Major

The following specific General Education courses are required for teacher certification: GEB 202, GEB 114, GEB 301, GED 101, 102, 153, GEE 201 and one additional English course (GEC, GED or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

No minor is required. No foreign language required.

Child Development practicum in Nursery school; Home Management practicum; Field experiences with a Home Economics Extension advisor are available.

Graduate degrees available.

VOCATIONAL EDUCATION STUDIES
Home Economics Education Specialization
(Teacher Certification)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-3354
Wham Building, Room 135

Phyllis Bubnas, Coordinator
Telephone - 618-453-3321
Baptist Student Center, Room 131

Home Economics today is concerned with human development, parenting, interpersonal relations, values, resource management, nutrition, and consumerism. Home economists are found not only in kitchens, nutrition labs, the fashion industry, and small speciality boutiques, but also in business and government offices, in juvenile services and programs for abused children, in community health agencies, and in public and private organizations that work to improve the quality of life.

This program is designed to meet the needs of students desiring to teach home economics in school departments maintained according to the provisions of the federal vocational acts. A vocational home economics certificate requires a bachelor's degree in home economics from an institution and in a course of study approved for teacher training by the Vocational Division of the United States Office of Education and by the State Board for Vocational Education and Rehabilitation. SIUC is so approved for training home economics teachers.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 108	The Sociological Perspective	3	-
GEC	Humanities (select) ³	3	3
GED 101	English Composition ¹	3	-
GED 102	English Composition II ¹	-	3
GED 107	Intermediate Algebra	3	-
GED 153	Public Speaking ¹	-	3
GEE 201	Healthful Living ¹	-	2
CHEM 140a	Chemistry ²	-	4
F&N 215	Introduction to Nutrition	2	-
VES 338	Clothing Construction	-	3
		<u>14</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ³	3	3
GEB 114	American Government & Politics ¹	-	3
GEB 202	Introduction to Psychology ¹	3	-
GEC	English Elective in Humanities (select) ¹	-	3
GEE	Physical Activity	-	2
CIM 237	Early Child Development I	-	3
CIM 227	Marriage and Family Living	3	-
CEFM 340	Consumer Problems	-	3
F&N 256	Science of Food	5	-
VES 320	Home Economics as a Profession	1	-
		<u>15</u>	<u>17</u>

¹The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, U.S. History; GED 101, English Composition; GED 102, English Composition II; GED 152 or 153, Speech; GEE 201, Healthful Living; and one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

²Substitutes for GEA 106, Chemistry for Non-Science Majors.

³Refer to section General Education for the Transfer Student.

Home Economics Education As A Major

No minor required. No foreign language required.

Child Development practicum in nursery school; home management practicum; supervised student teaching in an area high school; field experience with a home economics extension advisor are available.

Graduate degrees available.

VOCATIONAL EDUCATION STUDIES

Industrial Education Specialization
(Teacher Certification)
College of Education
(Bachelor of Science)

Jacquelyn Bailey
Chief Academic Advisor
Teacher Education Services
Telephone - 618-453-2354
Wham Building, Room 135

Dr. Richard Bortz
Coordinator
Telephone - 618-453-3321
Faner Hall

Industrial Education Teaching concerns specialized instruction in a wide variety of vocational-technical occupations including industrial oriented, and other occupations.

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	-	3
GEB 202	Introduction to Psychology	3	-
GEC	Humanities (select) ¹	3	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
GED 107	Intermediate Algebra	-	3
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Physical Activity	2	-
GE	Electives	-	6
		<u>14</u>	<u>18</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEA	Science (select) ¹	3	3
GEB 114	American Government	-	3
GEB 211	Contemporary Economics	3	-
GEC	English Elective in Humanities (select) ¹	3	-
GEE 201	Healthful Living	2	-
GE or VES	Electives	5	9
		<u>16</u>	<u>15</u>

¹ Refer to the section General Education for the Transfer Student.

Industrial Education Teaching As A Major

The following specific General Education courses are required for teacher certification: GEB 202, Introduction to Psychology; GEB 211, Contemporary Economics; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 152 or 153, Speech; GEE 201, Healthful Living; one additional English course (GEC, GED, or departmental). At least one three semester hour course must be taken in non-western or third world cultures from either Humanities or Social Science (GEC 213). Science course selection must include one laboratory class.

Special Note to Community College Personnel: The programs in education, training and development and secondary school industrial education and health occupations teaching require the equivalent of an associate degree in a technical specialty for admission.

A curriculum developed in zoology provides one with a knowledge of animals, their biology and conservation. The 22 faculty members of the Department of Zoology represent a wide range of these professional zoological disciplines. A wide variety of courses is offered in the biologically rich and diverse environment of Southern Illinois with excellent study facilities in a new \$11 million life science building equipped with specialized laboratories, computer facilities, research museum, and animal quarters. Associated are the Cooperative Fisheries and Wildlife Laboratories which make important contributions to the education of many undergraduates

The department's faculty and graduate students provide personal opportunities for student introduction to interesting specialties. This is augmented by the unique INDIVIDUALIZED CURRICULUM prepared for each student majoring in zoology. Arrangements are made through the Director of Undergraduate Studies for each student to select a faculty advisor to plan with him or her a specific program of courses in zoology and supporting areas (usually other biological sciences, math and chemistry).

<u>First Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 114	Introduction to American Government ³	-	3
GED 101	English Composition ³	3	-
GED 102	English Composition II ³	-	3
GEE	P.E. Activity ²	1	-
GEE 201	Healthful Living ³	-	2
**CHEM 222a,b	Introduction to Chemical Principles & Lab	4	4
*MATH 111	Pre-Calculus	5	-
ZOOL 220a,b	Diversity of Animal Life	4	4
		<u>17</u>	<u>16</u>
<u>Second Year</u>		<u>Fall</u>	<u>Spring</u>
GEB 202	Introduction to Psychology ³	3	-
GEB 301	U.S. History ²	-	3
GEC	English Elective in Humanities (select) ^{2,3}	3	-
GEC	Humanities (select) ²	3	3
GED 153	Public Speaking ³	-	3
GEE	P.E. Activity	1	-
BOT 200	General Botany	-	4
**BIOL 307	Environmental Biology	3	-
ZOOL 300	Vertebrate Embryology	4	-
ZOOL or	Botany Electives	-	4
		<u>17</u>	<u>17</u>

*Approved substitute for GED Math.

**Approved substitutes for GEA.

¹Should also have a minor in Botany. See also the program under the College of Science.

²Refer to the section General Education for the Transfer Student.

³The following are required courses for certification: GEB 202, Introduction to Psychology; GEB 114, Introduction to American Government and Politics; GEB 301, History of the United States; GED 101, English Composition; GED 102, English Composition II; GED 153, Public Speaking; GEE 201, Healthful Living; One additional English course (GEC, GED, or departmental); Math 111 or Pre-Calculus or 108, 109 College Algebra and Trigonometry. Science courses must include one laboratory course. A three semester hour course in non-western or third world cultures must be taken from Humanities or Social Science (GEC 213).

Zoology As A Major

Students pursuing a Bachelor of Science in Education are not required to complete a foreign language.

Refer to the Undergraduate Catalog for specific major requirements.

ZOOLOGY

College of Science
(Bachelor of Arts)
(Bachelor of Science)

Dr. DuWayne C. Englert
Dir. of Undergraduate Studies
Telephone - 618-536-2314
Life Science II, 351 or 355F

The zoology curriculum provides the student with a knowledge of animals, their biology and their conservation. The 25 faculty members of the Department of Zoology represent a wide range of professional zoological disciplines. A wide variety of courses is offered in the biologically rich and diverse environment of Southern Illinois. Our excellent study facilities in Life Science II are equipped with specialized laboratories, computer facilities, research museum, and animal quarters. Associated with the department are the Cooperative Fisheries and Wildlife Research Laboratories which make important contributions to the education of many undergraduates.

The department's faculty and graduate students provide personal opportunities for student introduction to interesting specialties. This is augmented by the unique INDIVIDUALIZED CURRICULUM prepared for each student majoring in zoology. Arrangements are made through the Director of Undergraduate Studies for each student to select a faculty advisor to plan with him or her the specific program of courses in zoology and supporting areas (usually other biological sciences, math and chemistry).

First Year		Fall	Spring
GEA 118	Introductory Zoology ²	4	-
GEB	Social Studies (select)	3	-
GEC	Humanities (select)	-	3
GED 101	English Composition	3	-
GED 102	English Composition II	-	3
Elective or			
CHEM 115	Introductory General Chemistry ^{1,2,4}	3	-
CHEM 222a	Introduction to Chemical Principles ^{1,2,4}	-	4
MATH 108,109	College Algebra and Trigonometry ^{1,2,3}	3	3
ZOOL 220a	Diversity of Animal Life (invertebrate) ²	-	4
		16	17
Second Year		Fall	Spring
GEB	Social Studies (select)	-	3
GEC	Humanities (select)	2	-
GED 152 or 153	Interpersonal Communication or Public Speaking	3	-
GEE	Human Health and Well Being (select)	-	1
BIOL 307	Environmental Biology ^{1,2}	-	3
CHEM 222b	Introduction to Chemical Principles ^{2,4}	4	-
FL	Foreign Language ^{1,2}	4	4
MATH 140 or 150	Calculus ⁵	-	4
ZOOL 220b	Diversity of Animal Life (vertebrate)	4	-
		17	15

¹ Approved substitutes for General Education.

² The College of Science requires one year of any foreign language, one year of math, six semester hours of physical sciences, and 6 semester hours of biological sciences.

³ GED 107 or 1 1/2 years of high school algebra is a prerequisite to Math 108 and 111.

⁴ CHEM 115 is for students who have less than one year of high school chemistry. CHEM 222a,b will satisfy Zoology Department requirements for inorganic chemistry. For some students, CHEM 140a,b will be adequate.

⁵ or Computer Science 200-3, 202-3, Math 282-3, Botany 360-3 or Educational Psychology 402-3.

Zoology As A Major: Majors in zoology should consult with the Director of Undergraduate Studies in Zoology as soon as possible and arrange to develop an individualized curriculum under the supervision of a faculty advisor. The last two years of each individual's program concentrates on the completion of courses established for the requirements of the individual curriculum. A major in zoology is an appropriate beginning for anyone planning to specialize in teaching or research in the biological sciences and allied fields such as conservation, environmental protection, fisheries or wildlife management, dentistry, medicine, or veterinary medicine. Most positions are available in schools, local, state, and federal government agencies, museums, hospitals, and chemical, instrument, food and drug industries.

Graduate degree programs leading to M.A., M.S., and Ph.D. are available.

Representative First Job Titles: Zoologist, Animal Breeding Technician, Animal Ecologist, Animal Husbandry Supervisor, Animal Taxonomist, Biological Warfare Technician, Genetics Technician, Medical Laboratory Assistant, Quality Control Laboratory Technician, Technical Library Operator, Entomologist, Physiologist, Wildlife Lab Assistant, Wildlife Refuge Manager, Parasitologist, Zoological Park Keeper, Mammalogist, Research Technician, Researcher, Reclamation Technician, Teacher, Technical Sales Representative.

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VISITS TO CAMPUS

We welcome prospective students, their families, friends, and counselors to learn more about SIUC through various on-campus and off-campus events. Activities on campus include Campus Visits, Group Visit Days, and Open Houses. SIUC Previews are held in several off-campus locations around Illinois each year.

Campus Visits are available by appointment Monday through Friday, 8:00 a.m. to 4:30 p.m.; to make best use of the visit, please plan to arrive by 2:00 p.m. Please make reservations approximately seven days in advance. Admissions Counselors are available to advise you about academic programs, student services, admission policies and procedures, housing options, financial aid and general information about the University and community. Guided tours of the campus are available. Appointments with departmental representatives can be arranged with advance notice.

Group Visit Days are, quite simply, Campus Visits by groups of people. The same arrangements are available, but an advance reservation is a must.

Open Houses are held on campus 4-5 times per year. Activities include admissions counseling, departmental exhibits, displays by student organizations, presentations on financial aid and other student services, campus and departmental tours, and opportunities to enjoy other events or activities.

SIUC Previews are events held in locations from October through May to bring SIUC within easy traveling distance of nearly every Illinois community. Activities include admissions counseling, small group and individual sessions on financial aid, a dynamic audio-visual presentation entitled "SIUC Today," consultation about University housing, and information displays on many other programs and services.

New Student Admission Services assists high schools and community colleges by providing representatives for college day and night programs, counseling prospective students, visiting schools and colleges on request, distributing university materials, and providing general assistance to counselors. Counselors should feel free to contact members of this staff anytime for reservations for Campus Visits and Group Visit Days or when information or materials are needed.

New Student Admission Services
Southern Illinois University at Carbondale
Carbondale, IL 62901-4710
800-642-3531 (toll free in Illinois)
618-536-4405 (direct)

Tom McGinnis	Director
Celeste Sullivan Baron	Counselor
Tammy Cavarretta	Counselor
Shelly Gimenez	Counselor
Dianna King	Counselor
Brenda Major	Counselor
Debbie Perry	Counselor
Bob Quane (Chicago area)	Counselor
Linda Schuette	Counselor

This is YOUR publication . . .

Since the Counselor's Advisement Catalog is a widely used publication by high school and community college counselors across the state, we are continually updating the information to make it current and useful. Striving for excellence indicates there is always room for improvement. How would you like to see this publication change?

Our goal is to provide every counselor and academic advisor a personal copy. It is our hope the 1990-91 Counselor's Advisement Catalog continues to assist you in advising your students relative to their preparation and transition to Southern Illinois University at Carbondale.

Please discard all older editions of this publication. Should you need additional copies, please write or call and we will be more than happy to provide them.

Shelly Gimenez, Editor

SIUC...

where
good things
happen!

VOLUME 31, NUMBER 3,
GENERAL INFORMATION FOR UNDERGRADUATES,
IS SHELVED IN ARCHIVES,
AND MAY BE SEEN UPON REQUEST.



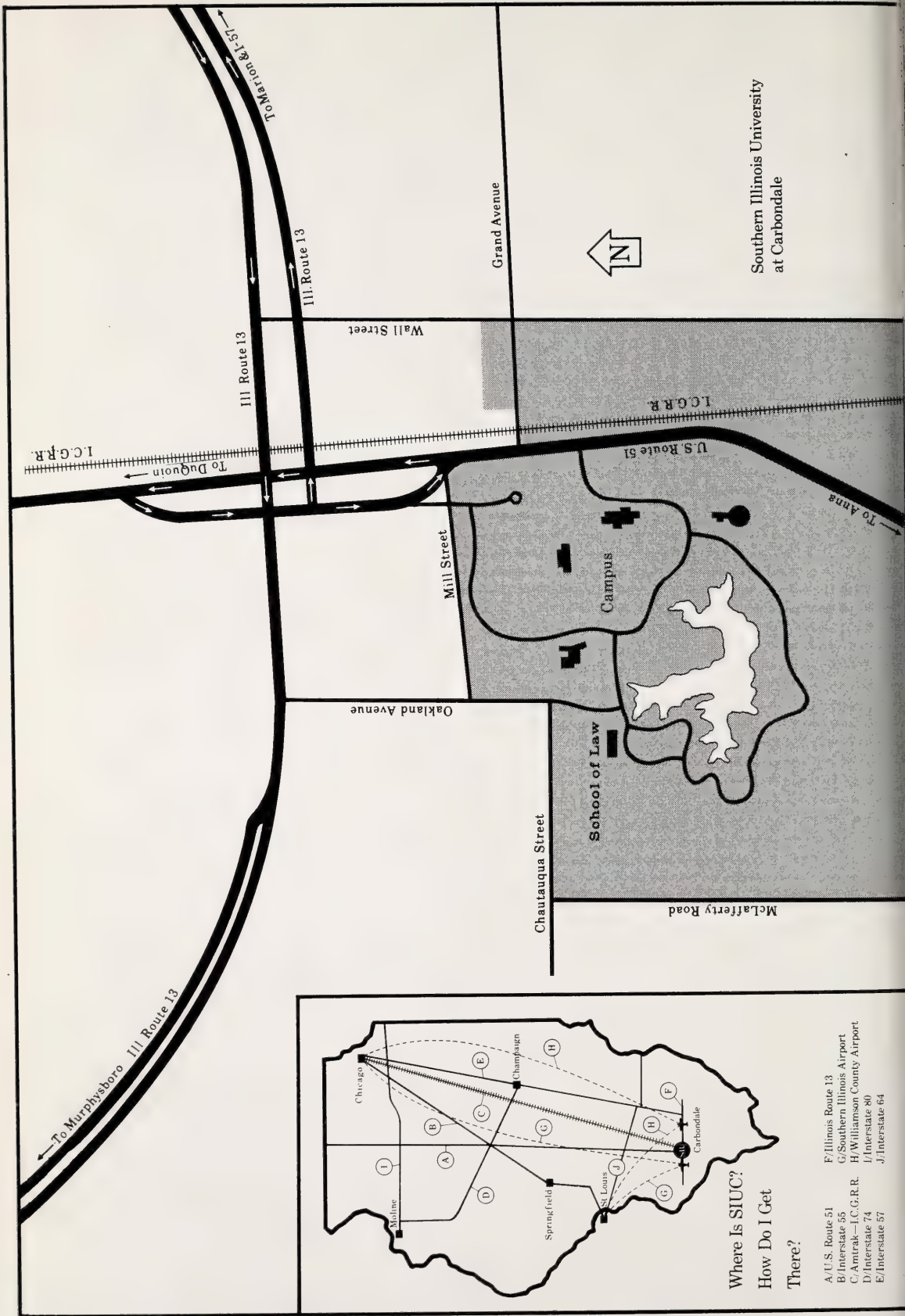
Southern Illinois University
at Carbondale

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Bulletin



1989-90
School of Law Catalog



Southern Illinois University
at Carbondale

Bulletin



1989-90
School of Law
Catalog

**Southern Illinois University
at Carbondale Bulletin (USPS 506-080)**

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This Issue

The School of Law Catalog covers in detail questions concerning the School of Law program at Southern Illinois University at Carbondale. (It supersedes Vol. 30, No. 3, of the *Southern Illinois University at Carbondale Bulletin*.) All statements in this catalog are announcements of present policies and are subject to change at any time without prior notice. They are not to be regarded as offers to contract.

The following publications may be obtained free from University Electronic Communications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

- Graduate Catalog
- Undergraduate Catalog
- School of Law Catalog
- Schedule of Classes (fall, spring, or summer)

Southern Illinois University at Carbondale is an Equal Opportunity Affirmative Action institution in accordance with civil rights legislation and does not discriminate on the basis of race, religion, national origin, sex, age, handicap, or other factors prohibited by law in any of its educational programs, activities, admission, or employment practices. Concerns regarding this policy should be referred to the Affirmative Action Office, Southern Illinois University at Carbondale, Anthony Hall, Room 104, telephone 618-536-6618.

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Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

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School of Law Calendar

Fall Semester, 1989

Orientation

Thursday, August 17-Saturday,
August 19

Semester classes begin

Monday, August 21

Labor Day holiday

Monday, September 4

Thanksgiving vacation

Saturday, November 18-Sunday,
November 26

Last day of classes

Monday, December 4

Final examinations

Wednesday, December 6-Saturday,
December 16

Spring Semester, 1990

Semester classes begin

Tuesday, January 16

Presidents' Day holiday
(classes held)

Monday, February 19

Spring vacation

Saturday, March 10-Sunday, March 18

Last day of classes

Monday, April 30

Final examinations

Tuesday, May 1-Friday, May 11

Commencement

Saturday, May 12

Summer Session, 1990

Classes begin

Monday, June 11

Independence Day holiday

Wednesday, July 4

Last day of classes

Monday, July 30

Final examinations

Wednesday, August 1-Friday, August 3

Commencement

Saturday, August 4

A Welcome From the Dean

As you enter the front door of this law school, there is a quotation carved on a marble slab, "Justice is a human enterprise." At SIUC we try our best to keep the study of law both a human and a humane enterprise. I assumed the position of interim dean with the intention of promoting this atmosphere.

Ours is a friendly law school with a strong opportunity for individual achievement. We have one of the best student-faculty ratios of any law school in the country. All of our law students are issued a key to the building. This allows you to come and go from the building, and more particularly from the library, at any time during the day or night. Furthermore, the small size of the class (we seek to admit one hundred students in each entering class) means that you will have your first year classes with a group of approximately 50 other students and that your writing section will be in a group of 15 to 20 students. This means the law school has an extremely personal feel to it.

We have an exceptionally dedicated and distinguished faculty at the law school. During the course of your study you will find their classes to be challenging and rewarding. We are justifiably proud of their scholarship and public service as well.

We are always striving to improve on the high quality program in place. New ideas are encouraged. A step in this direction comes with new offerings in the area of law and medicine, as well as a J.D./M.D. dual degree program.

We take great pride in the success of our graduates. We have one of the best bar passage rates in the nation. The placement of our law graduates in firms and with governmental agencies is particularly fine. I know you will be extremely pleased with the many opportunities which the study of law will open for you.

We hope that you will join us at the Southern Illinois University School of Law. I believe you would find our law school a healthy environment in which to tackle the challenge of legal education. I know you will find law school a rewarding experience.

A handwritten signature in black ink, reading "C. Peter Goplerud III". The signature is fluid and cursive, with the first name "C. Peter" written in a large, sweeping loop, followed by "Goplerud" and "III" in a more compact, stylized script.

C. Peter Goplerud III
Interim Dean

University General Information

Southern Illinois University

Southern Illinois University is a multicampus university comprising two institutions, Southern Illinois University at Carbondale (SIUC), with a School of Medicine at Springfield, and Southern Illinois University at Edwardsville (SIUE), with a School of Dental Medicine at Alton and a center in East St. Louis. The University, with an annual operating budget of \$357 million, enrolls over 35,000 students in programs from two-year technical curricula to Ph.D. degree programs in 25 fields along with law, medicine, and dental medicine. SIU was chartered in 1869 as Southern Illinois Normal University, a teachers' college. In 1947, the name was changed to Southern Illinois University, reflecting the institution's academic expansion. The University also expanded geographically. As early as 1949, SIU began offering off-campus academic courses in the metropolitan East St. Louis area, which led to the eventual development of a separate institution in Edwardsville.

A modern and comprehensive post-secondary educational institution, Southern Illinois University offers a broad range of academic programs that lead to associate, baccalaureate, master's, specialist's, doctoral, and professional degrees.

The instructional, research, and service missions of the two constituent institutions reflect the needs of the geographic areas in which they are located. The University also is committed to serving statewide needs. This commitment is reflected in educational activities located off the main campuses in communities throughout the state. It is realized also through research and training exchanges and through world-wide student exchange programs.

A nine-member board of trustees governs Southern Illinois University and sets policy that enables the University to carry out established missions and goals. The chancellor of Southern Illinois University is its chief executive officer and reports to the board of trustees. The University presidents report directly to the chancellor and are responsible for the internal operations of SIUE and SIUC respectively.

Location

The city of Carbondale is approximately 100 miles southeast of Saint Louis, Missouri, in Jackson County, the western border of which is the Mississippi River. Some of the most rugged and picturesque terrain in Illinois lies south of Carbondale. Sixty miles to the south is the historic confluence of the Ohio and Mississippi rivers; the two rivers form the border of the southern tip of Little Egypt, the name given to the 14 southernmost counties in Illinois. The region immediately surrounding Carbondale is noted for its large peach and apple orchards. Two state parks and four lakes are located within 10 miles of the campus and much of the area is a part of the Shawnee National Forest.

Campus

The University campus, comprising more than 3,290 acres immediately south of the city of Carbondale, includes a 981-acre developed portion with woods and a lake as a site for academic buildings and residence halls. The buildings are located in wooded tracts along two circular shaped campus drives, named for Lincoln and Douglas. Two beautiful features, located near the center of the campus, are a wooded tract preserved in the tradition of native forests of Southern Illinois and several buildings which formed the original campus a century ago.

1

School of Law

History

The Southern Illinois University School of Law, Carbondale, Illinois, began instruction in law in the fall of 1973. Hiram H. Lesar, for whom the law building is named, was the founding dean and served until 1980. Dan Hopson served as dean until his death in 1985, at which time Rennard J. Strickland was appointed. The first class graduated in 1976, and there are slightly more than 1,000 alumni.

The school is fully accredited by the American Bar Association and is a member of the Association of American Law Schools.

Twenty-three full-time faculty members are involved in research and publication in addition to their teaching duties. A dynamic, personalized educational environment is the result of a student body of 300 and a faculty/student ratio of 1/13. The group is small enough so that faculty and students can know each other but large enough to justify the variety of courses that should be available in a modern law school. Two visiting professors and six adjunct professors add additional depth to the faculty and curriculum.

Purposes

The main purpose of the School of Law is to train lawyers who will be competent to practice law now and in the future. In addition to specific legal rules, the student must learn analytic skills, research techniques, and the basic legal principles and policies underlying the current applications of those rules. He or she should also learn the basic skills of advocacy, counseling, and negotiation.

The second purpose of the School of Law stems from recognition of the social fact that lawyers are expected to provide a large part of the leadership in a wide spectrum of American life. In general terms this means that lawyers must perform two functions which go beyond rendering competent legal service. They must be prepared to serve in a "watch-dog" capacity with respect to the proper functioning of American institutions, and they must be prepared to participate in "making law."

The second purpose of the school, then, is to assure that the leadership function performed by lawyers is carried out well. For this purpose the lawyer requires not only the whole range of skills and knowledge needed for the practice of law, but also an understanding of our institutions and a sensitivity to potential conflict areas.

The third purpose of the school—which is essential to the fulfillment of the other two—is to instill in its students a proper conception of the professional

responsibilities of the lawyer and the organized bar, an understanding of the nature and role of the legal profession, and knowledge and appreciation of the ethical principles by which all lawyers are bound.



Facilities

The Lesar Law Building, dedicated in 1982, is a contemporary structure situated on the western edge of the campus near the lake. The building houses classrooms, student lounges, administrative and faculty offices, and the library, as well as a courtroom and large in-house clinic facilities.

Library

The law library provides all resources needed for research by faculty and students in a superior law school. The new law building includes a 41,000-

square-foot library that houses the collection, study spaces, and staff. Services, ranging from expert legal reference to computer-assisted information retrieval, are offered to the law school community.

Law books and law-related information accessible through other media, such as videotapes, audiotapes, microform, or computers, are the core of the law library. The law library holds more than 250,000 volumes—a collection well above the median academic law library size and rich in its variety of titles. This mature library resource includes over 420,000 microform units, the equivalent of close to 92,000 physical books.

Not so easily quantifiable, but just as important for effective research, are the library's computer-assisted research systems (LEXIS and Westlaw), and its computer-assisted library technical processes.

Several sophisticated approaches, including both a card catalog and a CD-Rom based catalog as well as on-line and conventional periodical indexes, provide ready access to the fully classified collection. The interpretive services



of law-trained librarians help patrons make efficient use of the materials. The library has been a selective federal government depository library since 1978, and an Illinois state depository library since 1982. Government publications are fully integrated into the cataloged collection and available to both the law school community and the public.

The physical features of the law library combine a serene decor with an eminently functional arrangement. Ample seating at both carrels and tables is provided for library users. The library's design includes access and work stations for patrons in wheelchairs. The relationship of library service centers to library users and to the collection is a model for efficient and immediate access to library materials.

The resources of over 2,000,000 volumes in the University library also are readily available to law students, to supplement the strong, well-staffed law school library. A sophisticated interlibrary loan system provides access to materials held in other major research libraries around the country.

Curriculum

FIRST YEAR

The first-year curriculum is required. It differs from the usual first-year law school curriculum in that Legal Writing and Reasoning is taught in small sections by full-time faculty members.

First Semester

Course	Hours
Contracts I	3
Property I	3
Torts I	3
The Legal Profession	3
Legal Research I: Sources and Methodology	1
Legal Writing and Reasoning	2

Second Semester

Course	Hours
Contracts II	3
Property II	3
Torts II	2
Civil Procedure I	3
Criminal Law	3
Legal Argumentation	2

SECOND AND THIRD YEARS

The curriculum for the second and third years remains flexible. Constitutional Law, Legal Research II, the Legal Profession, and the Senior Writing Seminar are the currently required courses. A Senior Writing Seminar requires a paper of the quality of a law journal comment. *SIU Law Journal* members are not required to take a seminar, since the law journal work is of equivalent rigor.

The School of Law provides J.D. students who have particular interests in either of two areas—environmental law and health care law—with the opportunity to emphasize these areas during their course of study.

Students interested in environmental and natural resources law may concentrate their course work in these areas. The law school offers a variety of courses ranging from a basic environmental law course to a course in mining law. It is possible for a student to earn nearly twenty credit hours in courses related to natural resources.

Students interested in health care law may focus their course work in this area. The law school currently offers a wide and growing range of health care law oriented courses, as well as practical training in the Legal Clinic for the Elderly. Additionally, the student Law and Medicine Society and the *Journal of Legal Medicine* provide students with valuable opportunities to cultivate their specialized health care law interests. The school is one of a handful of law schools in the country offering a joint JD/MD degree.

Microcomputers, which are available to students as part of the curriculum and in clinic work, provide valuable training for the practice of law.

Up to 6 semester hours of credit for course work taken in the Graduate School may be applied, with permission of the deans of both the Graduate School and the School of Law, toward the number of hours required for the J.D. degree and toward the residence semester requirement. A student must earn a grade of B or better in such work for School of Law credit to be given; this letter grade will be reflected on a student's School of Law record, but will not be used to compute the law grade-point average.

The total of course work permitted in each of the areas of clinical law, moot court, and law review may not exceed 6 semester hours each.

A list of second- and third-year courses normally offered during the academic year follows.

Course	Hours	Course	Hours
Administrative Law	3	Federal Income Taxation of	
Admiralty Law	3	Business Enterprises	3
Advanced Civil Procedure	3	Future Interests	3
Advanced Moot Court*	1-4	Graduate Courses	up to 6
Advanced Torts	2	Health Policy Law	3
Agency and Partnership	2	Immigration Law	3
Agricultural Law	2	Independent Research and	
Alternative Dispute Resolution	3	Writing	1-3
American Indian Law	2	Insurance	3
Anglo-American Legal History	3	Intellectual Property	3
Antitrust	3	International Law	3
Bioethics and the Law	3	Jurisprudence	3
Civil Procedure II	3	Juvenile Justice System	2
Civil Rights	2	Labor Law I	2
Client Interviewing and		Labor Law II	2
Counseling*	3	Land Use Planning	3
Commercial Law I	3	Law Journal*	1-6
Commercial Law II	4	Legal Clinic*	1-6
Conflict of Laws	3	Legal Profession**	2
Constitutional Law: 14th Amend.**	3	Legal Research II**	1
Constitutional Law: 1st		Medical Malpractice Law	2
Amendment Rights	3	Mental Health Law	2
Constitutional Law: Governmental		Mining Law	3
Powers	3	Oil and Gas Law	3
Consumer Protection	3	Pre-Trial Advocacy	3
Corporations	3	Preservation of Environmental	
Creditors' Rights	4	Amenities	2
Criminal Procedure: Limits		Products Liability	3
on Investigatory Power	3	Real Estate Finance	3
Criminal Procedure: Trial		Remedies	3
and Pre-Trial Practice	3	Securities Regulation	3
Delivery of Legal Services	3	Special Problems in Taxation	3
Economic Regulation of Business	3	Sports Law	3
Education Law	3	State and Local Government Law	3
Energy Regulation	3	Statutory Interpretation	3
Environmental Policy and		Transnational Business	
Pollution Control	3	Transactions	3
Estate and Gift Taxation	3	Trial Advocacy*	3
Estate Planning	3	Trusts and Estates	4
Evidence	4	Water Law	3
Family Law	3		
Federal Courts	3	*Enrollment Limited	
Federal Income Taxation	3	**Required	

Senior Writing Seminars may include the following:

Business Law	International Treaty Legislation
Civil Rights	Law and Economics
Commercial Law	Mental Health
Constitutional Law	Natural Resources Law
Criminal Law and Procedure	Products Liability
Energy	Property
Federal Jurisdiction	Sports Law
Housing Discrimination	Tax Policy
International Law	Torts

Summer School

The law school offers a limited summer school program with courses established each year on an ad hoc basis. New students are not admitted in the summer.



Admission

To be admitted as a candidate for the Juris Doctor degree, an applicant must present a bachelor's degree and demonstrate capacity for the study of law by a satisfactory undergraduate record and satisfactory performance on the Law School Admission Test (LSAT). Forms for applying for the LSAT and for admission to the law school may be obtained from the Office of Admissions, School of Law, Southern Illinois University at Carbondale, Carbondale, Illinois 62901 (618/453-8767, 618/453-8722).

The LSAT is administered on a nationwide basis by the Law School Admission Services, Box 2000, Newtown, PA 18940, and is offered on the SIUC campus four times each year. The test administration dates no later than October or December of the applicant's final year of undergraduate study are preferred. LSAT scores which are more than three years old will not be considered by the admissions committee.

Applicants must also register with the Law School Data Assembly Service (LSDAS) by completing the form found in the LSAT bulletin of information and returning it to the Law School Admission Services. Applicants must have transcripts sent to LSDAS by the registrar of each college and professional or graduate school attended. Test scores and evaluations of transcripts are reported to applicants and to the law schools they designate. It is not necessary that application for admission to the School of Law be made before taking the test or registering with LSDAS.

Applications for admission to the school may be filed any time after September 1, but applicants are strongly encouraged to file their applications prior to February 1. There is a \$15.00 application fee.

An applicant who is admitted is required to make a nonrefundable tuition deposit of \$100 by April 1, unless accepted later, when several weeks are allowed. This deposit will be credited against the first semester's tuition and fees.

The rules of the School of Law prohibit the admission of any applicant who has been dismissed academically from another law school.

Admissions are made without regard to race, religion, sex, national origin, age, handicap, or other factors prohibited by law. The law school has an active affirmative action program and participates in the Council on Legal Education Opportunity (CLEO) program.

Admission of Handicapped Students

The School of Law maintains a strong commitment to make all services, programs, and activities available to students with disabilities. Our new facility provides access for those in wheelchairs or with limited mobility. Both the campus and the city of Carbondale are accessible to students who use wheelchairs, and to those who are semi-ambulatory, visually handicapped, hearing-impaired, or otherwise disabled. The University Housing Office provides modified housing in the Thompson Point residential area and in the family housing areas.

The law school will gladly help handicapped students make arrangements to meet special needs. Students who seek further information should consult the Admissions Office or the University's Office of Disabled Student Services.

Admission of Transfer Applicants

Transfer applicants must have completed at least one full year of law school at an ABA-accredited law school which is also a member of the Association of American Law Schools. Transfer applicants must submit an official copy of their law school and undergraduate transcripts, an LSDAS Report, and a letter from their law school dean's office certifying that they are in good academic standing and are eligible unconditionally for readmission to that law school. No admission decisions will be rendered until all of these documents have been received.

Admission of transfer applicants is always discretionary. The transfer applicants must establish, by their prior law school records, that they are capable of above-average law school academic performance. Ordinarily, transfer applicants must also demonstrate that they would have been accepted had they applied to SIU School of Law as a first-year law student.

Pre-Law Study

The law school does not require any particular subjects or specific course of study for admission. A broad liberal arts education is better preparation for the study of law than specialized subjects closely related to the law.

As the principal tool of the lawyer is the art of expression, and the importance of the study of English cannot be over-emphasized, the pre-law student should acquire facility in the communication of ideas, both oral and written.

Degree Requirements

A candidate for the Juris Doctor (J.D.) degree must satisfy the entrance requirements, fulfill the residence requirements, and satisfactorily complete a total of 90 semester hours of work for credit, and must pass all required courses. The required courses currently consist of all first year courses, Constitutional Law, Legal Research II, and a Senior Writing Seminar.

RESIDENCE REQUIREMENTS

A candidate must complete six semesters of residence (the last two must be in this School of Law). In order to obtain residence credit for a semester, a candidate must complete a minimum of 12 hours of work and must obtain final credit in a minimum of 10 hours of work. A candidate who either examines in or obtains final credit for fewer than the required minimum hours will be given proportionate (12ths) residence credit. No credit toward residence is given in courses in which a student receives a failing grade.

LIMITATION OF COURSE HOURS

No student may register for more than 16 hours without the consent of the dean. It is advisable for students to devote most of their time to their work in the school. Students who undertake substantial employment outside the school should reduce their course loads.

ATTENDANCE AND WITHDRAWAL

Regular attendance is required of each student. Specific rules regulating attendance and withdrawal are set forth in the law school rules. Copies of the rules are available in the law library.

EXAMINATIONS

A student who has not withdrawn, or been withdrawn, from a course is expected to take the examination for that course at the regularly scheduled time. Unexcused failure to take an examination will result in a failing grade. If failure to take an examination is excused, the student may, with the permission of the dean and the instructor, take the examination after the rest of the class or at the time it is next regularly offered. Withdrawal from a non-required course must be made in accordance with University deadlines.

POOR SCHOLARSHIP RULE

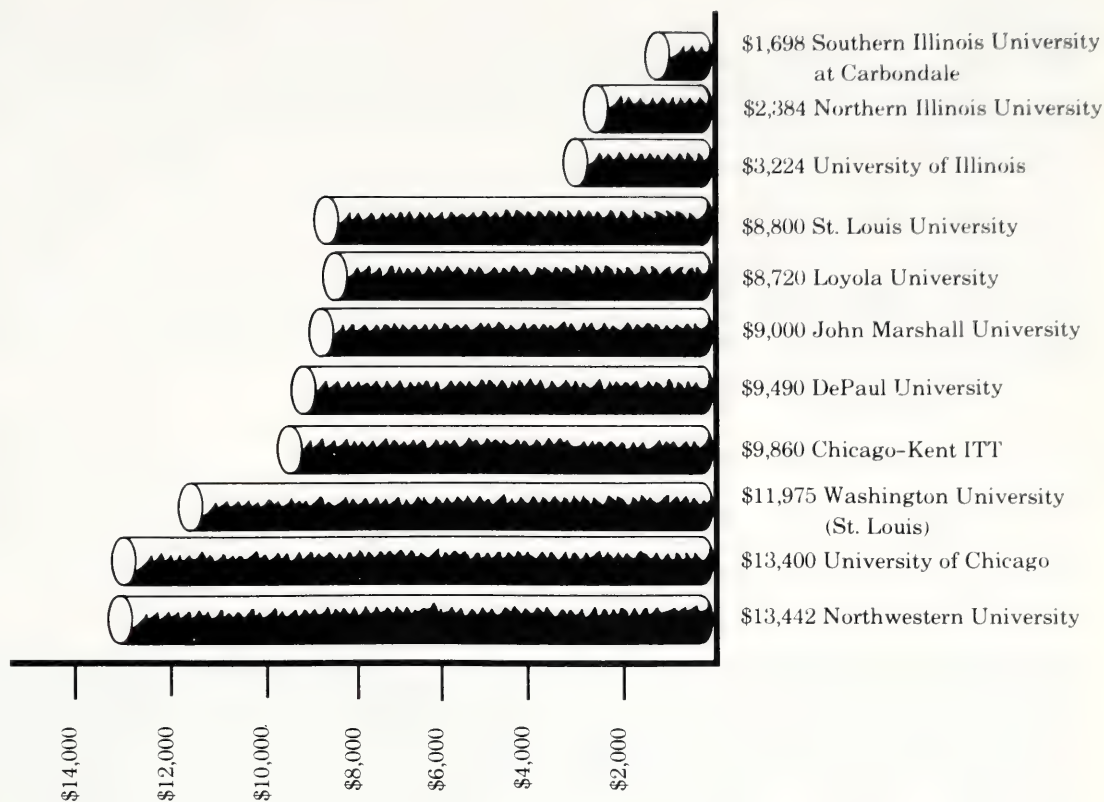
Grades are given in numbers on a scale of 0.0 to 4.0, with 2.0 being the average required for graduation. A student who fails to have a cumulative average of 1.9 at the end of the first year or 2.0 at the end of any other academic year will be dropped from the school for poor scholarship. During the student's senior year a 2.0 average must be obtained in courses taken during that senior year.

A student whose average at the end of the first year is below 1.9 may appeal to the dean, who refers the petition to the Academic Standards Committee to recommend acceptance or denial of a petition for readmission.

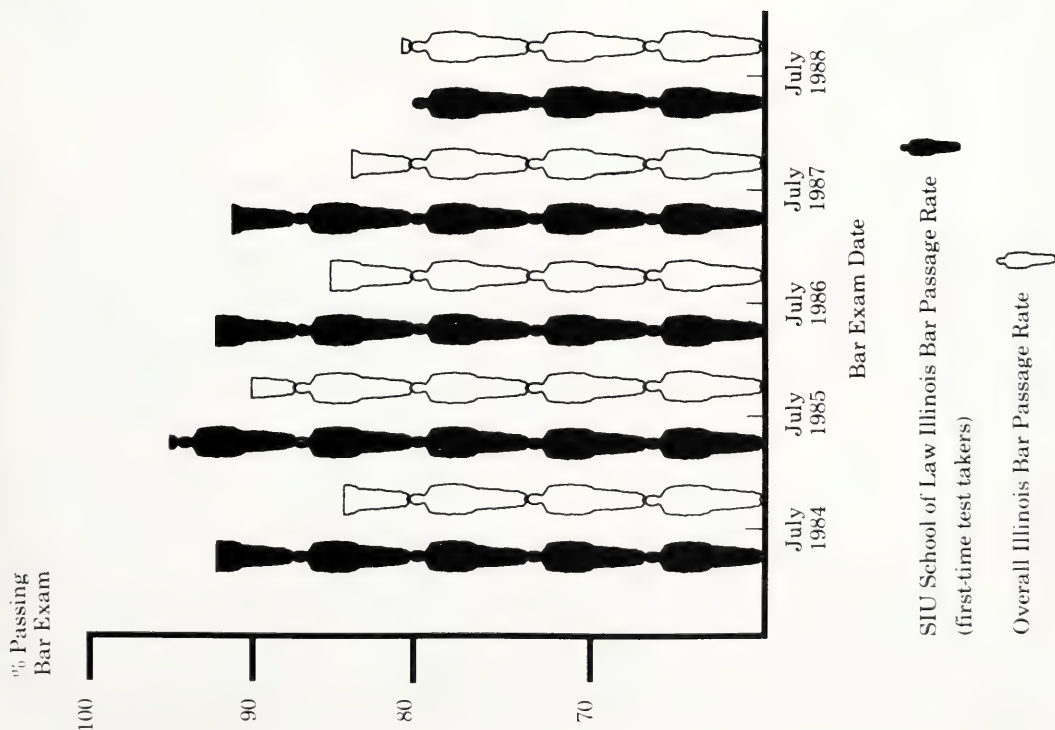
SCHOOL OF LAW ACADEMIC RULES

Copies of the academic rules of the law school are available in the law library, and are controlling if in conflict with statements contained in this bulletin.

SIUC OFFERS THE LOWEST COST
LEGAL EDUCATION IN THE ILLINOIS AREA
1988-89 Tuition at Illinois and selected law schools



SIUC SCHOOL OF LAW GRADUATES
OUTPERFORM OTHER GRADUATES
ON THE ILLINOIS BAR EXAM



Honors

The Dean's List is compiled every semester and includes those students in each class who rank in the top 15% of full time students. Those students comprising the top 10% of each class are eligible for nomination to membership in Phi Kappa Phi, a national honorary society.

GRADUATING HONORS

Individuals in the top 3% of a graduating class are awarded Juris Doctor degrees, Summa Cum Laude; the next highest 7% are awarded Juris Doctor degrees, Magna Cum Laude; and those in the next highest 10% are awarded Juris Doctor degrees, Cum Laude.

Tuition and Fees

Tuition and fees in the School of Law are established by the Board of Trustees and are subject to change whenever conditions make changes necessary. Present tuition and fees for regularly enrolled law students (taking 12 or more semester hours) are \$1,222.05 per semester for residents and \$3,064.05 per semester for non-residents. Books will cost about \$300 per semester.



Financial Aid

The SIUC Financial Aid office is responsible for administering financial aid for SIUC students. Although financial assistance is available to those who qualify, law students are limited by the types of financial aid for which they may apply. Student loans are the most conventional source of assistance to law students. Currently there are several loan programs available including the Law Access Loan (LAL), which is a program designed to meet the special needs of the law student. In addition, many students participate in the on-campus student work program.

To be considered for student work and loans, students should complete and mail the 1989-90 American College Testing Family Financial Statement—ACT/FFS. (SIUC does not use the GAPS FAS.) ACT forms are available each

January and should be completed and mailed as soon after January 1 as possible. Completing the form in a timely manner will allow for early notification of each student's financial aid eligibility status. For a copy of the 1989-90 ACT/FFS and more specific financial aid information, students should contact the Financial Aid office, Woody Hall, B Wing, Third Floor, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4702 (618-453-4334).

In addition, the School of Law has limited resources for financial aid which include:

1. A significant number of research assistantships awarded to members of the second- and third-year classes primarily on a merit basis. Assistantships provide a tuition waiver and a modest monthly salary. Approximately one-third of the upperclass students have assistantship appointments.
2. A limited number of work opportunities in the law library and in the administrative offices of the school.
3. A limited number of cash grants.
4. A limited number of tuition-remission scholarships awarded on an academic basis to first-year students (with outstanding LSAT scores and GPAs) and on a financial-need basis to all eligible law students.
5. A limited number of fellowships available to minority students.
6. A limited fund for emergency short-term loans.

SCHOLARSHIPS AND AWARDS

Current scholarships, honors, and awards are:

- James O. Monroe Award
- Delos L. Duty Scholarship Award
- Max Turner Memorial Scholarship Award
- Hiram H. and Rosalee Lesar Scholarship Award
- W. Philo Gilbert Memorial Scholarship Award
- Edgar O. and Bonnie Zimmer Law Scholarship Fund
- Greg A. Cheney Labor Law Award
- Client Service Award
- John S. Rendleman Award
- Lincoln's Inn



Order of Barristers

Illinois Bar Foundation Research Fellows

Journal of Legal Medicine Award

Antitrust Award

American Bar Association Section of Urban, State, and Local Government Award

Bureau of National Affairs *Law Week* Award

Natural Resources Law Award

Prentice-Hall Tax Award

West Publishing Company Awards

Lawyers Co-op Publishing Company Awards

There are also state and national essay competitions on legal subjects, and scholarships are available to law students at any school from a variety of organizations. Information about these opportunities is available in the law school.

Housing

University on-campus housing is available for 4,771 single students and 576 married students. Two newly-remodeled residence halls across the street from the law school are reserved for law student single-room occupancy, and several apartments in married student housing are reserved for law students. Off-campus housing is readily available. Inquiries concerning other on-campus or off-campus housing may be obtained from University Housing, Washington Square, Southern Illinois University at Carbondale, Carbondale, Illinois 62901 (618/453-2301).

Honor Code

Preparation for law must encourage individual integrity as well as an understanding of law. The School of Law has adopted its own comprehensive ethics and disciplinary code. The high regard for ethical conduct at SIUC is reflected in the unique practice of giving each law student a key to the building and library. Copies of the code will be sent to applicants on request and are available in the law library.

Clinical Program

The school operates an extensive, in-house legal aid clinic. It also offers a limited externship program. The clinic provides selected students with a number of internships and research assistantships. Other students may obtain credit. Clients include the elderly in thirteen southern Illinois counties and the inmates of three state and one federal prison. Students also work with the Land of Lincoln program for indigent persons, with state's attorney's offices, and with public defender and appellate public defender programs. There is an unusual opportunity for variety in the clinic experience. For instance, an Illinois Supreme Court rule enables third-year clinic students to practice in court as long as they are accompanied by a licensed attorney. Clinic credit may not be given before a student's fifth semester. The total hours obtainable are limited.

Law Journal

The *Southern Illinois University Law Journal*, published quarterly, is a scholarly legal journal which publishes articles and shorter student work on the law and law-related topics. Published materials include articles written by law students, law professors, judges, and other members of the legal profession.

The journal is managed and edited by an editorial board made up of third-year law students. Members of the editorial board are elected from those second-year students who have successfully completed the journal's writing program. The writing program involves second-year students in an intensive program of legal research, writing and analysis under the direction of the editorial board. Participation by second-year students in the journal's writing program is determined on both an invitational and a competitive basis open to all students in good standing.

The Journal of Legal Medicine, the official quarterly publication of the American College of Legal Medicine, presents, on a regular basis, articles written by students at Southern Illinois University School of Law. This arrangement is designed to allow law students who have special interests in law and medicine to pursue those interests through scholarly research and publication.

Legal Argumentation

The legal argumentation program is a comprehensive one. It provides a required experience in appellate practice in the first year. This is followed by an opportunity to participate in regional and national competitions, including the ABA-sponsored National Appellate Advocacy and Client Counseling Competitions, the Jessup International Law Moot Court Competition, the National Trial Competition, the Frederick Douglass Moot Court Competition, and the National and ABA Moot Court Competitions. SIUC teams have enjoyed great success in these competitions. Law school teams won, in 1985 and 1986, the national American Bar Association Moot Court Competition and the regional rounds of the Jessup International Law Moot Court Competition. The school's team members were medalists at the 1986 National Moot Court Team Competition.

Concurrent Degree Programs

The School of Law, in cooperation with the Graduate School, offers concurrent J.D. and master's degrees in business administration, public affairs, and accountancy. A student must be enrolled in both the graduate program and the law school. The master's programs ordinarily require 30 hours of study, while the law degree requires 90 hours. When the master's and J.D. degrees are pursued concurrently, a significant reduction in the total number of hours required to earn both degrees is achieved. Details of the concurrent degree programs are available from the law school registrar, Norma Brown. Students should make their interest in the above concurrent degree programs known to the registrar after the completion of the first year of law school study.

A concurrent J.D./M.D. degree may be obtained through a six-year course of study. Students must be admitted to both the SIU School of Law and the SIU School of Medicine. The program requires that students take the first two years of the law school curriculum, including two summer sessions, then four years of the medical school program. The fourth year in the medical school sequence consists of a specially designed group of electives in law, medicine, and health policy. Inquiries about this concurrent program should be directed to Scott Nichols, director of admissions at the School of Law.

Student Organizations

The student body has drafted and adopted a constitution and by-laws for the Student Bar Association of which every regular law school student is a member. The association functions primarily through officers and committees elected by the membership at large and plays an integral role in the operation

and governance of the law school. The students who serve as representatives to the faculty meetings are elected by the students, and those who serve on the various faculty committees are appointed by the dean from a list submitted by the Student Bar Association.

Other student organizations are Phi Alpha Delta, Phi Delta Phi, the Donald F. McHenry International Law Society, the Women's Law Forum, the National Lawyers Guild, the Black American Law Students Association, the Law and Medicine Society, the Christian Legal Society, and law student divisions of the Illinois State Bar Association and the American Bar Association.

Child Care

The law school provides facilities for cooperative child care for the use of law students evenings and weekends.

Placement Services

The School of Law provides professional career counseling to all students. Placement services are managed by an assistant dean, who is an experienced attorney; in addition, the placement office has its own placement library. On-campus interviews, principally geared toward upperclasspersons, occur during both Fall and Spring semesters. Students may also participate in several regional interview programs in Chicago, St. Louis, and Springfield, Illinois. Two other midwest job fairs are available to enhance minority employment opportunities.

The placement office encourages students to begin career planning immediately following their first semester of law school. The assistant dean provides resume and cover letter assistance and organizes mock interview sessions to improve the competitiveness of SIUC students in the job market. The placement bulletin board lists full-time, part-time, and summer employment opportunities. Upon request, alumni may receive the weekly placement bulletin, which lists nation-wide employment opportunities. To assist in relocation, SIUC maintains reciprocity with nearly every law school in the country.

Within six months of graduation, 95% of the ninety-eight members of the class of 1988 had located employment. Annual salaries ranged from \$21,000 to \$55,000, with \$25,000 being the average. About two-thirds of the graduating class decided to stay in Illinois. Nearly 20% of the graduates remained in the Carbondale area, and 10% located in Springfield. Private law firms employed approximately one-half of the 1988 graduates, including 12% of the class joining firms with fewer than five attorneys, and 3% accepting employment with large firms (more than 50 attorneys). Seven graduates took judicial clerkships, three are in the armed services, 10% joined prosecutor's or public defender's offices, and 10% accepted positions with other federal, state, or local governmental agencies.

The School of Law is firmly committed to a policy against discrimination in employment based on sex, race, religion, age, handicap, or national origin, and it expects all employers who avail themselves of the placement services to avoid such discriminatory practices.

2 Faculty and Staff

Faculty

JILL E. ADAMS, B.A., M.A.T., J.D.

Assistant Professor of Law

B.A. with Highest Honors 1974, University of North Carolina-Chapel Hill; M.A.T. 1978, University of Massachusetts; J.D. Summa Cum Laude 1982, University of New Mexico, Order of the Coif, Supervisory Editor, Law Review. Law clerk, U.S. District Judge Juan C. Burciaga, 1982-1984; private practice, Albuquerque, NM, 1984-85, Carbondale, IL, 1985-88; assistant professor at SIU School of Law since 1988.



W. EUGENE BASANTA, B.A., J.D., LL.M.

Associate Professor of Law

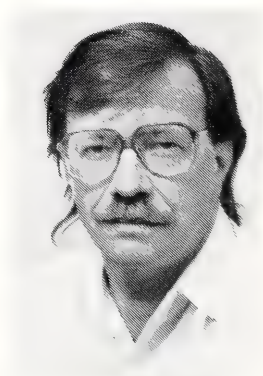
B.A. Cum Laude 1972, Williams College, Phi Beta Kappa; J.D. with High Distinction 1975, University of Kentucky, Order of the Coif, Law Review; LL.M. 1980, Temple University. Admitted to practice in Kentucky. Law clerk, Fayette County Circuit Court, 1974-75; private practice, Louisville, 1975-78; assistant professor, 1980-85; associate professor at SIU School of Law since 1985. Author of *The Law of Medical Practice in Illinois* (with Theodore R. LeBlang, Lawyers Co-Operative Publishing Co. 1986); and of articles in legal periodicals. Editor, *Health Care Lawyer*.



ROBERT E. BECK, B.S.L., LL.B., LL.M.

Professor of Law

B.S.L. 1958, LL.B. 1960, University of Minnesota; LL.M. 1966, New York University. Admitted to practice in Minnesota. Private practice 1960-62; assistant professor, University of North Dakota, 1962-65; visiting associate professor, University of Maine, 1965-66; associate professor, 1966-68, professor, 1968-75, Chester Fritz Distinguished Professor, 1975-76, University of North Dakota; professor at SIU School of Law since 1976. Author of *Drainage Law, 5 Waters and Water Rights* (R. Clark ed. 1967, 1972, 1976); *Water Pollution and Water Quality: Legal Controls* (with Goplerud; Allen Smith Co., 1984, Michie Co., 1988); *Agricultural Water Pollution Control Law, 2 Agricultural Law* (J. Davidson ed., 1981); *Illinois Natural Resources Law* (Butterworth Legal Publishers, 1985); and of articles in legal periodicals; Reporter, Uniform Law Commissioners Drafting Committee on Damage to Surface Estates.



KEITH H. BEYLER, A.B., J.D.

Associate Professor of Law

A.B. Magna Cum Laude 1969, Princeton University, Phi Beta Kappa; J.D. Cum Laude 1974, University of Chicago, Order of the Coif, Law Review. Admitted to practice in California. Law clerk, Justice James A. Cobey, California Court of Appeals, 1974-75; private practice, Los Angeles, 1975-82; assistant professor, 1982-88; associate professor at SIU School of Law since 1988. Author of articles in legal periodicals.



DARRELL W. DUNHAM, B.A., J.D., LL.M.

Professor of Law

B.A. 1968, J.D. Magna Cum Laude 1971, Willamette University; LL.M. 1972, Harvard Law School. Admitted to practice in Washington and Illinois. Law clerk, Justice Sloan, Oregon Supreme Court, 1970; associate professor of law, University of Idaho, 1972-75; visiting professor of law, University of South Dakota, 1975-76; visiting professor of law, University of San Diego, summer 1976; associate professor, 1976-79, professor at SIU School of Law since 1979. Author of articles in legal periodicals.



HOWARD B. EISENBERG, B.A., J.D.

Professor of Law and Director of Clinical Program

B.A. with Highest Distinction 1968, Northwestern University, Phi Beta Kappa; J.D. with Honors 1971, University of Wisconsin. Admitted to practice in Illinois, Wisconsin, and the District of Columbia. Law clerk, Justice Horace W. Wilkie, Wisconsin Supreme Court, 1971-72; State Public Defender, State of Wisconsin, 1972-78; Defender Director, 1978-79, Executive Director, 1979-83, National Legal Aid and Defender Association; consultant to state and local governments on the delivery of legal services to indigent criminal defendants, 1978-83; associate professor and director, clinical program, 1983-87, professor at SIU School of Law since 1987. Author of articles in legal periodicals.



MARIA FRANKOWSKA, LL.M., Ph.D., J.S.D.

Professor of Law

LL.M. 1961, Warsaw University; Ph.D. 1968, Wroclaw University; J.S.D. 1976, Institute of State and Law, Polish Academy of Science. Lecturer, Foreign Trade Department, Central School of Planning and Statistics, Warsaw, 1963-70; assistant professor, 1970-77, associate professor 1978-82, Polish Academy of Sciences, Warsaw; visiting scholar, Treaty Research Center, University of Washington, 1982-83; adjunct professor, spring 1984, visiting associate professor 1984-88; professor at SIU School of Law since 1988. Member of Polish Delegation at numerous international conferences; visiting scholar in England and U.S., 1976-77. Author of *Denunciation of International Treaties* (Warsaw, 1976), *International Agreements in Simplified Form* (Warsaw, 1981), and of articles in legal periodicals.



DONALD W. GARNER, B.A., J.D.

Professor of Law

B.A. 1967, University of Texas at Arlington; J.D. Cum Laude 1971, University of Texas at Austin, Chancellors Honorary Society, Order of the Coif, Phi Delta Phi, Law Review. Admitted to practice in Texas. Briefing attorney to Chief Justice, Texas Supreme Court, 1971-72; private practice, Dallas 1972-74; assistant professor, 1974-77, associate professor, 1977-80, professor since 1980, associate dean, 1981-84 at SIU School of Law. Faculty advisor, Illinois Judicial Conference, 1976; Amoco Outstanding Teacher Award, 1976. Visiting professor, University of Arkansas School of Law, 1980-81. Author of articles in legal periodicals.



C. PETER GOPLERUD III, B.A., J.D.

Professor of Law and Interim Dean

B.A. 1971, J.D. 1974, University of Kansas. Admitted to practice in Kansas. Law clerk, Justice David Prager, Supreme Court of Kansas, 1974-77; assistant professor, University of Akron, 1977-81; associate professor 1981-85, professor since 1985, associate dean 1985-88, interim dean at SIU School of Law since 1988. Author of *Coal Development and Use* (Lexington Books, 1983); *Water Pollution and Water Quality: Legal Controls* (with Beck; Allen Smith Co., 1984, Michie Co., 1988) and of articles in legal periodicals.



RICHARD A. GREEN, B.A., J.D.

Adjunct Professor of Law

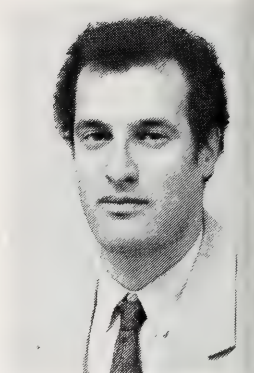
B.A. 1968, Southern Illinois University; J.D. 1972, University of Illinois. Admitted to practice in Illinois. In private practice 1972-present. Adjunct professor of law at SIU School of Law, 1976. Assistant team leader, National Institute of Trial Advocacy, 1979-80. Adjunct professor of law at SIU School of Law since 1980.



LEONARD GROSS, B.A., J.D.

Associate Professor of Law

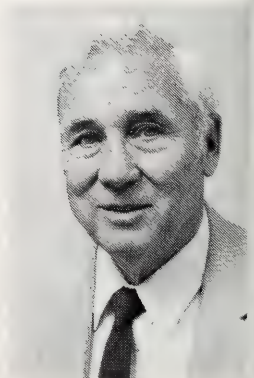
B.A. 1973, State University of New York at Binghamton; J.D. Magna Cum Laude, Boston University, 1976, Editor of Law Review. Admitted to practice in Massachusetts, Illinois, and New York. Law clerk, Judge Frederick Brown, Massachusetts Appeals Court, 1976-77; private practice, New York, 1977-83; assistant professor, 1983-87, associate professor at SIU School of Law since 1987. Author of articles in legal periodicals.



HAROLD W. HANNAH, B.S., J.D.

Adjunct Professor of Law

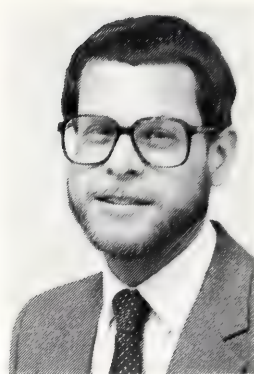
B.S. 1932, J.D. 1935, University of Illinois. Director, Division of Special Services for War Veterans, 1945-47; associate professor, agricultural law and administration, University of Illinois, 1935-41 and 1947-54; dean of resident instruction, College of Agriculture, 1954-59; group leader of contract team in India, 1955-57; professor of agriculture and veterinary medicine law, University of Illinois, 1959-71; private practice since 1971; lecturer and adjunct professor at SIU School of Law since 1975. U.S. Army, 1941-45. Author of *Law on the Farm* (MacMillan, 1948); *Law and Court Decisions on Agriculture* (with Krausz, Stipes Publishing Co., 1968); *Law for the Veterinarian and Livestock Owner* (Interstate, 1974); *Resource Book for Universities in Developing Countries* (University of Illinois Press, 1966); *The Legal Base for Universities in Developing Countries* (with Caughey, University of Illinois Press, 1967); *Law and the Farmer* (revision of Buescher, Springer Publishing Company 1975), and legal articles.



FRANK G. HOUDEK, B.A., J.D., M.L.S.

Professor of Law and Library Director

B.A. Cum Laude 1971, J.D. 1974, Order of the Coif, M.L.S. 1976, UCLA. Admitted to practice in California. Certified law librarian. Reference librarian, Los Angeles County Law Library, 1975-79; librarian, Lawler, Felix & Hall, Los Angeles, 1979-82; associate director of law library and adjunct assistant professor of law, University of Southern California, 1982-85; associate professor of law and library director, 1985-88; professor at SIU School of Law since 1988. Author of numerous legal bibliographies and articles.



ROBERT H. HOWERTON, B.A., J.D.

Adjunct Professor of Law

B.A. 1965, Southern Illinois University at Carbondale; J.D. 1968, Northwestern University, Ford Fellowship. Admitted to practice in Illinois and Georgia. Private practice, Illinois, 1968-72; Williamson County, Illinois, state's attorney, 1972-79; circuit judge, First Judicial Circuit, Illinois, 1979-88; Justice, Fifth District Appellate Court, Illinois, 1988-present; adjunct professor of law at SIU School of Law since 1984. Faculty member, National Institute of Trial Advocacy, 1980-84, State's Attorneys Trial Advocacy School, 1978-84, Illinois Judicial Conference, 1984.



DAVID C. JOHNSON, B.S., C.P.A., J.D., LL.M.

Professor of Law

B.S. 1959, C.P.A. 1959, J.D., 1961, University of North Dakota, Order of the Coif, Editor-in-Chief of Law Review; LL.M. 1964, University of Pennsylvania. Admitted to practice in North Dakota and Georgia. U.S. Army Captain, 1961-63. Graduate fellow 1964, University of Pennsylvania; assistant professor 1964-67, associate professor 1967-70, professor 1970-71, Emory University; visiting professor 1971-72, professor 1972-75, University of Oklahoma; professor since 1975, associate dean at SIU School of Law, 1977-81. Author of *Georgia Landlord and Tenant Law* (*Encyclopedia of Georgia Law*, 1968), and articles in legal periodicals.



PATRICK J. KELLEY, B.A., J.D.

Professor of Law

B.A. 1965, University of Notre Dame, Valedictorian; graduate study 1965-66, Stanford University; J.D. 1969, University of Iowa, Editor-in-Chief of Law Review. Private practice, Chicago, 1969-71; assistant professor, 1971-75, associate professor, 1975-79, Washington University; fellowship in Law and Humanities, Harvard Law School, 1976-77; private practice, St. Louis, 1979-81; associate professor 1981-84, professor at SIU School of Law since 1984. Author of articles in legal periodicals.



EDWARD J. KIONKA, B.S., J.D., LL.M.

Professor of Law

B.S. 1960, J.D. 1962, University of Illinois, Order of the Coif, Law Review; LL.M. 1974, Columbia University. Admitted to practice in Illinois and Missouri. Private practice 1962-64, 1971-72, 1975-76. Teaching associate, Columbia University, fall 1962; instructor in law, University of Michigan, 1964-65; director, Illinois Institute for Continuing Legal Education, 1965-67; assistant dean and assistant professor of law, University of Illinois, 1967-71; special counsel, General Government Committee, Sixth Illinois Constitutional Convention, 1970; Krulewitch Fellow, Columbia University, 1972-73; associate professor, 1973-75, 1976-77, adjunct professor, 1975-76, professor since 1977, associate dean, 1984-85, acting dean, summer 1985 at SIU School of Law; visiting professor, Washington University, 1979-80, McGeorge School of Law, 1985-86, Emory University School of Law, 1989. Author of *Torts in a Nutshell*. (West Publishing Co., 1977); *Materials for the Study of Evidence* (with R. L. Carlson and E. J. Imwinkelried, Michie Co., 2d Ed., 1986); *Torts Black Letter* (West Publishing Co., 1988); and of articles in legal periodicals.



MARK R. LEE, B.A., J.D.

Professor of Law

B.A. 1971, Yale University; J.D. with High Honors 1974, University of Texas, Austin, Chancellors, Order of the Coif, Phi Kappa Phi, Texas Law Review. Admitted to practice in Texas. Instructor, University of Texas Law School, 1973-74; assistant attorney general, Austin, Texas, 1974-75; attorney, Department of Justice, Washington, D.C., 1975-76; instructor, University of Miami, 1976-77; assistant professor 1977-81, associate professor 1981-85, professor of law at SIU School of Law since 1985. Visiting lecturer, University of Warwick, England, spring 1984; visiting Fellow, Max Planck Institute of Foreign and International Private Law, Hamburg, West Germany, summer 1986; member, Governor's Task Force on Utility Regulation Reform, 1982-84; consultant (re: acid rain legislation) Illinois Attorney General, 1985-86; Arbitrator, American Arbitration Association's Commercial Arbitration Association. *Who's Who in American Law*, *Who's Who of Emerging Leaders in America*. Author of *Anti-trust Law and Local Government* (Greenwood Press, 1985), and of articles in legal periodicals.



HIRAM H. LESAR, A.B., J.D., J.S.D.

Visiting Professor of Law

A.B. 1934, J.D. 1936, University of Illinois; J.S.D. 1938, Yale. Admitted to practice in Illinois, Missouri, U.S. Supreme Court. Sterling Fellow, Yale, 1936-37; assistant professor 1937-40, associate professor 1940-42, University of Kansas; senior attorney 1942, principal attorney 1943, Board of Legal Examiners, Washington, D.C.; U.S. Navy 1944-46 (Lt. Cdr.); associate professor 1946-48, professor 1948-57, University of Missouri; professor 1957-60, dean and Zumbalen professor 1960-72, Washington University; dean and professor of law at SIU School of Law 1972-80; interim president 1974, acting president 1979-80, Distinguished Service Professor, SIU, since 1981. Summer visiting professor: Illinois, 1947; Indiana, 1952; Southern California, 1959; North Carolina, 1961; New York University, 1965. Reporter, Special Study Committee on the Judiciary (Mo.), 1966-67. Author of *Landlord and Tenant* (Little-Brown, 1957); Vol. I Pt. 3 of *American Law of Property* (Casner ed., Little-Brown, 1952, Suppl. 1977); and articles in legal periodicals.



BRIAN E. MATTIS, B.S.B.A., J.D., LL.M.

Professor of Law

B.S.B.A. 1960, University of Florida; J.D. Cum Laude 1968, University of Miami, Editor-in-Chief of Law Review, Iron Arrow Honorary Society, Wig & Robe Legal Honorary, Omicron Delta Kappa, Phi Kappa Phi; LL.M. 1969, Yale. Admitted to practice in Florida. Sterling Fellow, Yale, 1968-69; associate professor 1969-72, professor 1972-74, University of Nebraska; professor at SIU School of Law since 1974. Amoco Outstanding Teacher Award 1975. Faculty advisor, Illinois Judicial Conference, 1975, 1985-86. University of Nebraska, summer, 1970, 1972, 1973. Academic member, National Maritime Law Association of the United States; member of the Admiralty and Maritime Section Council of the Illinois State Bar Association, 1987-88. Author of chapters in legal treatises and articles in legal periodicals.



TAYLOR MATTIS, B.A., J.D., LL.M.

Professor of Law

B.A. 1960, University of Alabama, Phi Beta Kappa; J.D. Cum Laude, 1963, University of Miami, Wig and Robe, Law Review; LL.M. 1969, Yale. Admitted to practice in Florida, Nebraska, and Illinois. Private practice, Ft. Lauderdale, 1963-66; law clerk, U.S. District Judge Emmett Choate, 1966-68; Sterling Fellow, Yale, 1968-69; attorney, Nebraska Appellate Justice Project, 1972-74; associate professor, 1974-77, professor at SIU School of Law since 1977. Member, American Law Institute. Author of articles in legal periodicals.



THOMAS B. McAFFEE, B.S., J.D.

Associate Professor of Law

B.S. 1976, Phi Beta Kappa, J.D. 1979, University of Utah, Phi Kappa Phi, Order of the Coif, Articles Editor, Utah Law Review. Admitted to practice in California. Law clerk, The Honorable J. Clifford Wallace, U.S. Court of Appeals, 9th Cir., 1979-80; private practice, California, 1980-82; assistant professor 1982-85, associate professor at SIU School of Law since 1985.



RALPH JOHN ROBERTSON, JR., A.B., J.D.

Associate Professor of Law and Associate Dean

A.B. with Honors 1973, J.D. Cum Laude 1976, University of Missouri, Order of the Coif, Editor-in-Chief of Law Review. Admitted to practice in Missouri. Staff law clerk, U.S. Court of Appeals, 8th Cir., 1976-79; private practice, St. Louis, 1979-82, 1985-86; assistant professor 1982-85, 1986-89, associate professor since 1989, associate dean at SIU School of Law since 1988. Author of articles in legal periodicals.



MARSHA G. RYAN, B.A., M.D., J.D.

Adjunct Professor of Law

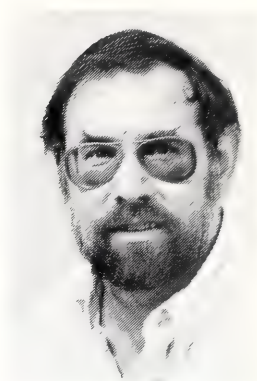
B.A. 1968, Oklahoma City University; M.D. 1972, University of Oklahoma School of Medicine; Surgery Internship and Residency, University of Oklahoma Health Sciences Center and University of Missouri-Columbia Hospitals, 1972-78; J.D. 1987, SIU School of Law. Board Certified, American Board of Surgery, 1979; Fellow, American College of Surgeons, 1985; private practice of surgery, 1978-present. Adjunct professor at SIU School of Law since 1987.



WILLIAM A. SCHROEDER, B.A., J.D., LL.M.

Professor of Law

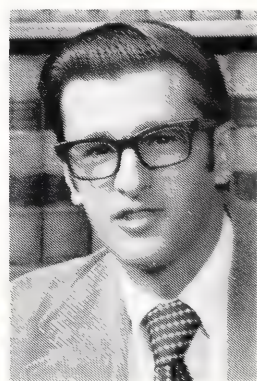
B.A. 1966, J.D. 1969, University of Illinois; LL.M. 1977, Harvard. Reginald Heber Smith Fellow, Boston Legal Assistance Project, 1969-70; teaching fellow, Boston College Law School, 1970-71, Order of the Coif (Boston College Chapter); private practice, Boston, 1971-74; assistant attorney general, Boston, 1975-77; director of litigation, Monroe County Legal Assistance, Rochester, 1977-78; assistant district attorney, New Bedford, 1979-80; associate professor, University of Alabama, 1980-84; visiting professor, University of Missouri, spring and summer, 1983; associate professor 1984-88, professor at SIU School of Law since 1988. Author of *Alabama Evidence* (with J. Hoffman and R. Thigpen, Harrison Co., 1987), and of articles in legal periodicals.



NORMAN VIEIRA, A.B., J.D.

Professor of Law

A.B. 1959, Columbia University; J.D. 1962, University of Chicago, Board of Editors of Law Review. Admitted to practice in Illinois and before U.S. Supreme Court. Law clerk, Justice Walter V. Schaefer, Illinois Supreme Court, 1963-65; professor, University of Idaho, 1965-82; visiting professor, UCLA, 1970-71; professor of law at SIU School of Law since 1982. Author of *Civil Rights in a Nutshell* (West Publishing Co.), and of articles in legal periodicals.



EDWARD L. WELCH, B.S., J.D.

Adjunct Professor of Law

B.S. 1957, St. Louis University; J.D. 1960, Washington University, Order of the Coif. In private practice, East St. Louis and Edwardsville. Labor attorney with Allis-Chalmers and National Labor Relations Board, 1960-67; lecturer and adjunct professor of law at SIU School of Law since 1973.



WENONA Y. WHITFIELD, B.A., J.D.

Associate Professor of Law

B.A. 1970, Illinois Wesleyan University; graduate study, 1970-72, J.D. 1977, Southern Illinois University. Private practice, Chicago, 1977-80; Illinois Department of Mental Health, 1980-81; assistant professor 1981-87, associate professor at SIU School of Law since 1987; visiting professor, University of Missouri-Columbia, 1987-88. Member, American Law Institute, ABA Fellows. Author of articles in legal periodicals.



Clinical Program Staff

RICHARD J. HABIGER, B.A., J.D.

Staff Attorney

B.A. 1963, Rockhurst College; J.D. 1970, University of Missouri at Kansas City. Admitted to practice in Missouri and Illinois. Reginald Heber Smith Fellow, Legal Aid and Defender's Society of Kansas City, 1970-72; National Juvenile Law Center, St. Louis University, 1972-75. Staff Attorney, Clinical Program, SIU School of Law since 1975. Author of *Law and Tactics in Juvenile Cases* (with Evans, North, Piersma, Schiller & Spiller, National Juvenile Law Center, 2nd ed. 1975), and of articles in legal periodicals.



JAMES B. ROBERTS, B.A., J.D.

Staff Attorney

B.A. 1971, Adelphi University; J.D. 1977, Southern Illinois University. Admitted to practice in Illinois, U.S. District Court, S.D. Illinois and U.S. Court of Appeals for the 7th Circuit. Managing attorney, Clinical Program, SIU School of Law, 1977-80; private practice, 1980-82; staff attorney, Clinical Program, SIU School of Law since 1982.



MARY C. RUDASILL, B.S., M.S., J.D.

Staff Attorney

B.S. 1971, Illinois State University; M.S. 1975, University of Illinois; J.D. 1980, Southern Illinois University. Law Clerk, U.S. Magistrate Kenneth J. Meyers, 1980-81; private practice, Carbondale, IL, 1981-present; part-time staff attorney, 1985-88, staff attorney, Clinical Program, SIU School of Law since 1988.

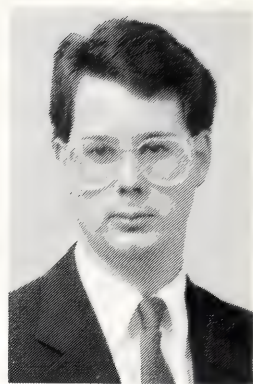


Law Library Staff

JAMES E. DUGGAN, B.A., J.D., M.L.I.S.

Assistant Professor in the Law Library and Reference Librarian

B.A. 1983, Virginia Polytechnic Institute and State University; J.D. 1986, University of Mississippi; M.L.I.S. 1987, Louisiana State University. Beta Phi Mu. Admitted to practice in Mississippi. Reference librarian/assistant professor at SIU Law Library since 1988.



R. KATHY GARNER, B.A., M. of Libr., J.D.

Assistant Professor in the Law Library and Senior Reference Librarian

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Professor in the Law Library and Librarian for Cataloging

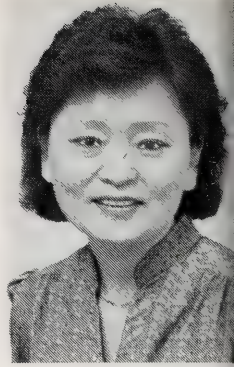
B.A. 1948, Randolph-Macon College; M.S.(L.S.) 1952, University of Illinois, Beta Phi Mu; Ph.D. 1972, SIU, Phi Kappa Phi; LL.D. 1989, Randolph-Macon College. Certified law librarian. Library assistant in catalog/acquisitions, 1948-51; catalog librarian, Ohio State University, 1952-59; visiting lecturer, University of Illinois, 1964; instructor, SIU, 1964-70; catalog librarian/assistant professor, 1974-79, catalog librarian/associate professor, 1979-85, professor at SIU Law Library since 1985. Author of *Access Points to the Law Library* (Wm. S. Hein & Co., 1982); *Seventeenth Century English Law Reports in Folio* (Wm. S. Hein & Co., 1986); *The Law Library Reference Shelf* (Wm. S. Hein & Co., 1988); and of bibliographies and articles.



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Administrative Staff

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Acknowledgement Card

- ___ We have received your application for admission. Upon receipt of your LSDAS report, your file will then be ready for admissions committee action unless you are notified otherwise. You will be notified of the action taken by the committee.
- ___ We have received your application for admission. Your application fee (\$15) must be received before the admissions committee can consider your application.
- Other _____
- ___ Your application for admission has been received and found to be incomplete. It is being returned to you so that you can complete answers to the following questions:
- _____

Information Card

Name _____ Sex _____
Last First Middle

Applying for Fall, _____
Year Soc. Sec. No.

Permanent Address _____
Street

City State Zip Telephone

Local Address _____
Street

City State Zip Telephone

Good Until _____

Undergraduate School _____
(Do not write below this line)

Ap. _____ LSDAS _____ GPA _____ LSAT _____ IND. _____

STATUS _____

Southern Illinois University
at Carbondale

31/5

Bulletin

1990-1991 Undergraduate Catalog



Southern Illinois University at Carbondale complies fully with applicable federal and state non-discrimination and equal opportunity laws, orders, and regulations in admission, employment, and access to university programs and activities. Complaints or requests for further information should be directed to the University Affirmative Action Office, Anthony Hall 104, 536-6618.

Southern Illinois University at Carbondale is committed to creating and maintaining a university community free from all forms of sexual harassment. Additional copies of the *Sexual Harassment Policy* are available in the University Affirmative Action Office and at Personnel Services. Problems should be reported to the University Ombudsman, Woody Hall C302; the University Affirmative Action Office, Anthony Hall 104 or Personnel Services, 810 South Elizabeth Street.

This publication provides information about the University. Primary attention is given to its academic program, rules and regulations, and procedures. Students starting their collegiate training during the period of time covered by this catalog (summer 1990 through spring 1991) are subject to the curricular requirements as specified herein. The requirements herein will extend for a seven calendar year period from the date of entry for baccalaureate programs and three years for associate programs. If the students have not met their undergraduate educational objectives by that time, they will then become subject to current curricular requirements. Following the seven year rule, baccalaureate students who began their collegiate career prior to summer 1983 are required to meet the requirements of the 1983 SIUC Undergraduate Catalog or a subsequent catalog. Associate students who began their career prior to summer 1987 are required to meet the requirements of the 1987 SIUC Undergraduate Catalog or subsequent catalog. Should the requirements contained herein subsequently be changed by the University, students are assured that necessary adjustments will be made so that no additional time is required of them. Where programs include requirements established by agencies external to the University, every effort will be made to follow this same principle so far as possible. Should subsequent curricular requirement changes work to the students' advantage, they may elect to meet the new requirements rather than those contained herein. Should the University find it necessary to discontinue an academic program, the effective date, unless otherwise dictated, will be such that the last regularly admitted class will be able to complete the program in regular time sequence. This means four years for baccalaureate and two years for associate programs. The University reserves the right to change information contained herein on matters other than curricular requirements without regard as to their date of entry into college.



Southern
Illinois
University
at Carbondale

Bulletin

1990-1991
Undergraduate
Catalog

**Southern Illinois University
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This Catalog

The Undergraduate Catalog covers in detail questions concerning the undergraduate program of Southern Illinois University at Carbondale for the period from summer, 1990 through spring, 1991. It supersedes Volume 30, Number 4.

The following publications may be obtained free from University Electronic Communications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Graduate Catalog

Undergraduate Catalog

School of Law Catalog

General Information for Undergraduates

Schedule of Classes. Please specify session (fall, spring, or summer).

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Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

	Term Expires
A.D. VanMeter, Jr., <i>Chairman</i> , Springfield	1993
Carol Kimmel, <i>Vice-Chairman</i> , Hot Springs Village, Arkansas	1995
George T. Wilkins, Jr., <i>Secretary</i> , Edwardsville	1991
B.B. Birger, Collinsville	1993
Ivan A. Elliott, Jr., Carmi	1991
William R. Norwood, Rolling Meadows	1995
Harris Rowe, Jacksonville	1995
William L. Hall, (Student Trustee) Carbondale	1990
Bob Ginter, (Student Trustee) Edwardsville	1990

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University Calendar

Summer Session, 1990

Eight-Week Session Begins
Independence Day Holiday
Final Examinations

Commencement

Monday, June 11, 7:30 A.M.
Wednesday, July 4
Thursday, August 2, and Friday,
August 3
Saturday, August 4

Fall Semester, 1990

Semester Classes Begin
Labor Day Holiday
Fall Vacation

Thanksgiving Vacation

Final Examinations

Monday, August 20, 8:00 A.M.
Monday, September 3
Thursday, October 25, 10:00 P.M. —
Wednesday, October 31, 8:00 A.M.
Wednesday, November 21, 10:00 P.M.
— Monday, November 26, 8:00 A.M.
Monday, December 10 — Friday,
December 14

Spring Semester, 1991

Semester Classes Begin
Martin Luther King, Jr.'s Birthday
Holiday
President's Day Holiday
Spring Vacation

Final Examinations
Commencement

Monday, January 14, 8:00 A.M.

Monday, January 21
Monday, February 18
Saturday, March 9, 12:00 NOON —
Monday, March 18, 8:00 A.M.
Monday, May 6 — Friday, May 10
Saturday, May 11, and Sunday,
May 12

Accommodating Religious Observances of Students

Southern Illinois University at Carbondale will make reasonable accommodation for individual student religious observances. The *Policy Accommodating Religious Observances of Students* appears in its entirety in Chapter 7.

Chapter 1
General Information

Chapter 2
Academic Regulations
and Procedures

Chapter 3
Academic Programs

Chapter 4
General Education and
Courses

Chapter 5
Undergraduate Curricula
and Courses

Chapter 6
Student Services

Chapter 7
University Policies

Chapter 8
Faculty

Chapter Reference Guide

The black tabs on the right of this page correspond to black tabs on Chapters 1 through 8 in this catalog.

For information or concerns pertaining to this catalog, contact Patricia Covington or Robert Simpson at the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois, 62901.

1 General Information

The University

Southern Illinois University

Southern Illinois University is a multicampus university comprising two institutions, Southern Illinois University at Carbondale (SIUC), with a School of Medicine at Springfield, and Southern Illinois University at Edwardsville (SIUE), with a School of Dental Medicine at Alton and a center in East St. Louis. The University, with an annual operating budget of \$357 million, enrolls over 35,000 students in programs from two-year technical curricula to Ph.D. programs in 25 fields along with law, medicine and dental medicine. SIU was chartered in 1869 as Southern Illinois Normal University, a teachers' college. In 1947, the name was changed to Southern Illinois University, reflecting the institution's academic expansion. The University also expanded geographically. As early as 1949, SIU began offering off-campus academic courses in the metropolitan East St. Louis area, which led to the eventual development of a separate institution in Edwardsville.

A modern and comprehensive post-secondary educational institution, Southern Illinois University offers a broad range of academic programs that lead to associate, baccalaureate, master's, specialist's, doctoral, and professional degrees.

The instructional, research, and service missions of the two constituent institutions reflect the needs of the geographic areas in which they are located. The University also is committed to serving statewide needs. This commitment is reflected in educational activities located off the main campuses in communities throughout the state. It is realized also through research and training exchanges and through world-wide student exchange programs.

A nine-member Board of Trustees governs Southern Illinois University and sets policy that enables the University to carry out established missions and goals. The chancellor of Southern Illinois University is its chief executive officer and reports to the Board of Trustees. The University presidents report directly to the chancellor and are responsible for the internal operations of SIUE and SIUC respectively.

Southern Illinois University at Carbondale

Southern Illinois University at Carbondale has taken pride in the quality of its services since its doors were first opened in 1869. Outstanding departments, distinguished faculty, thorough and inspired teaching, and a thoughtful approach to the blending of old wisdom with new knowledge, as well as student services from admission to placement, combine with the University's enviable location to provide a rewarding educational experience.

Every member of the University faculty is a student as well as a teacher bring-

ing the products of research and scholarship into the classroom. The University has many distinguished scholars on its faculty honored by their peers for important contributions to the fields they study. Contact with these hard-working educators offers students the best possible entry into the world of today where ideas and technology mesh. As students progress in their studies they will work along with faculty members and may eventually be able to participate in ongoing research projects or set up projects of their own. Other courses may lead to internships or practicum work on campus or in the area around the University.

Morris Library, a major resource for students and faculty, contains about 2,000,000 volumes, 2,400,000 units of microform, and over 14,000 periodical subscriptions. These materials are in open stacks, available to every student. There are also important collections of original research materials, as well as support services such as a map library, records and tapes, and a self-instruction center. Many disciplines require laboratories; some are the traditional variety and some are in orchards, barns, hangars, machine shops, sound chambers, computer labs, archaeological digs, sewing rooms, kindergartens, and clinics.

The University offers a great variety of services to students. The Office of Admissions and Records personnel oversee registration and keep track of students' progress from entrance to graduation. Financial experts, wise in the field of money for education, work tirelessly to find the right combination of loans, grants, and on- and off-campus employment to keep each student in school. Residence halls are available on campus as are furnished and unfurnished apartments for families. Approved housing for freshmen and sophomores is monitored by the University, and those seeking other housing in Carbondale and the surrounding area have access to advice from housing staff. Counseling services are ready to help students deal with scholastic, family, emotional, medical, legal, or financial problems.

The University provides an aggressive placement program on a number of levels. University Placement Center presents career fairs and regular visits by recruiters from large employers. Career counselors are ready to work with students from the time of their enrollment. Seminars and workshops are conducted regularly and a career library is maintained. Some schools and departments have highly successful recruitment programs of their own. Placement services do not stop at graduation — the University keeps a current placement file for every interested graduate, and Alumni Services offers referral assistance.

Carbondale, an economic center of Southern Illinois, has been cited in a recent study as one of the fifty most desirable places to live in the United States. Only a few hours from Chicago, St. Louis, and Memphis, the University sits amid rolling hills, farmlands, and orchards just 60 miles above the confluence of the Mississippi and Ohio rivers. Glacial deposits of rock have left the area from Carbondale south ruggedly scenic and suitable for a wide range of outdoor activities. Four large recreational lakes are within minutes of the campus; the two great rivers, the spectacular 240,000-acre Shawnee National Forest, and a large number of smaller lakes, state parks, and recreational areas are within easy driving distance. The Mid-South climate is ideal for year-around outdoor activities — even a little cross-country skiing now and then. The campus itself is a marvel of landscaping, planted with native trees and shrubs and blooming flora.

Activities on campus are equally inviting. There are over 300 student organizations — special interest, political, Greek, religious, service — intramurals from baseball to Ultimate Frisbee, a recreational lake on campus, nine intercollegiate sports programs for women and nine for men, and great varieties of diverting entertainment. A large indoor recreational center contains an Olympic-sized pool, weight rooms, game courts of all kinds, diet and exercise programs, instruction, and equipment that can be checked out for outdoor recreation.

At this modern university in a rural setting one can benefit from the best of both worlds — the scenic wonders, the small-town friendliness, the easy access to all the area has to offer, and the resources of a sophisticated faculty and staff with the latest in technological marvels at its command.

Accreditations and Affiliations¹

- North Central Association of Colleges and Schools
- Accreditation Board for Engineering and Technology, Inc.
- Accreditation Council of the American Assembly of Collegiate Schools of Business (undergraduate and master's level programs)
- Accrediting Council on Education in Journalism and Mass Communication
- American Association for Accreditation of Laboratory Animal Care
- American Association of Airport Executives
- American Association of Museums (University Museum)
- American Bar Association
- American Board of Examiners in Speech Pathology and Audiology
- American Board of Funeral Service Education (Mortuary Science program)
- American Chemical Society
- American Dietetic Association
- American Institute of Architects
- American Institute of Professional Geologists
- American Library Association
- American Physical Therapy Association (Physical Therapist Assistant program)
- American Psychological Association (Counseling psychology and clinical psychology)
- Association of American Law Schools
- Association of American Publishers
- Association of American University Presses
- Association of Collegiate Schools of Architecture
- Association of Research Libraries
- Association of University Programs in Health Administration (Health Care Management option of B.S. degree in Technical Careers)
- Commission on Accreditation of Rehabilitation Institutes (Evaluation Development Center)
- Commission on Dental Accreditation of the American Dental Association (Dental Hygiene and Dental Laboratory Technology programs)
- Committee on Allied Health Education on Accreditation and the Joint Review Committee for Respiratory Therapy Education
- Committee on Allied Health Education on Accreditation of the American Medical Association and the Joint Review Committee for Radiologic Technology Education
- Community Development Society
- Connecticut State Board of Education
- Council for Accreditation for Counseling and Related Educational Programs
- Council on International Education Exchange
- Council on Rehabilitation Education (Rehabilitation Counseling program)
- Council on Social Work Education
- Federal Aviation Administration (Aviation Maintenance Technology, Aviation Flight, Avionics Technology, and the Airway Science curriculum)
- Foundation for Interior Design Education Research
- Honors Council of the Illinois Region
- Illinois Department of Registration and Education (Associate Degree Nursing program)
- Illinois Office of Education
- Superintendent of Education
- State Teacher Certification Board
- Illinois State Board of Education
- Liaison Committee on Medical Education of the American Medical Association and Association of American Medical Colleges
- National Academy of Early Childhood Programs sponsored by the National Association for the Education of Young Children
- National Association of Industrial Technology (B.S. program in Industrial Technology)

National Association of Schools of Art and Design	National Shorthand Reporters Association (court reporter training program)
National Association of Schools of Music	National Recreation and Parks Association (National accreditation council)
National Association of Schools of Public Affairs and Administration	Photo-Marketing Association International
National Athletic Trainers Association	Servicemembers Opportunity Colleges
National Collegiate Honors Council	Society of American Foresters
National Council for Accreditation of Teacher Education	University Council for Vocational Education
National Fire Protection Association	Upper Midwest Honors Council
National Institute for Automotive Service Excellence	Western Association of Schools and Colleges
National League for Nursing	

¹To determine the agency which accredits a specific program, consult the information on that program in this catalog.

Faculty

The University faculty is dedicated to excellence in teaching and to the advancement of knowledge in a wide variety of disciplines and professions. Many faculty members are well known both nationally and internationally for their many varied research contributions. The Undergraduate Catalog lists the numerous programs offered by the faculty and, in addition, in Chapter 8 of this catalog the faculty members are listed by departments in which they are appointed.

Curricula

The undergraduate majors and minors offered by Southern Illinois University at Carbondale are listed below in alphabetical order. Also indicated is whether a major, a minor, or both are offered. The academic unit which offers the major is listed as is the degree the student would expect to receive upon graduation. If a major may be completed in more than one academic unit, the other units are listed on additional lines. For example, the biological sciences major is offered through the College of Science. Students planning to teach biological sciences may also complete the major in the College of Education. The requirements for each of the programs listed below are explained in Chapter 5 of this bulletin. The degree abbreviations used are: A.A.S., Associate in Applied Science; B.A., Bachelor of Arts; B.F.A., Bachelor of Fine Arts; B.Mus., Bachelor of Music; and B.S., Bachelor of Science.

In addition to the majors and minors listed, preprofessional programs may be completed in dentistry, law, medicine, nursing, optometry, pharmacy, physical therapy, podiatry, public health, and veterinary science.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Accounting	X		College of Business and Administration	B.S.
Administration of Justice	X	X	College of Liberal Arts	B.S.
Advanced Technical Studies	X		College of Technical Careers	B.S.
African Studies		X		
Aging Studies		X		
Agribusiness Economics	X	X	College of Agriculture	B.S.
Agriculture, General	X	X	College of Agriculture	B.S.
Allied Health Careers	X		College of Technical	A.A.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Specialties ⁹			Careers	
Animal Science	X	X	College of Agriculture	B.S.
Anthropology	X	X	College of Liberal Arts	B.A.
Aquatics ³		X		
Architectural Technology ⁹	X		College of Technical Careers	A.A.S.
Art	X	X	College of Communications and Fine Arts	B.A., B.F.A.
			College of Education	B.S.
Asian Studies		X		
Athletic Training ³		X		
Automotive Technology ⁹	X		College of Technical Careers	A.A.S.
Aviation Flight ⁹	X	X	College of Technical Careers	A.A.S.
Aviation Maintenance Technology ⁹	X		College of Technical Careers	A.A.S.
Aviation Management	X		College of Technical Careers	B.S.
Avionics Technology ⁹	X		College of Technical Careers	A.A.S.
Biological Sciences	X	X	College of Science	B.A.
			College of Education	B.S.
Black American Studies		X		
Botany	X	X	College of Science	B.A.
Business and Administration	X		College of Business and Administration	B.S.
Business Economics	X		College of Business and Administration	B.S.
Chemistry	X	X	College of Science	B.A., B.S.
			College of Education	B.S.
Child and Family Services ⁴		X		
Chinese ¹		X		
Cinema and Photography	X		College of Communications and Fine Arts	B.A.
Civil Engineering	X		College of Engineering and Technology	B.S.
Classical Civilization ¹		X		
Classics ¹	X		College of Liberal Arts	B.A.
Clothing and Textiles ⁶	X	X	College of Education	B.S.
Coaching ³		X		
Commercial Graphics – Design ¹	X		College of Technical Careers	A.A.S.
Communication Disorders and Sciences	X		College of Communications and Fine Arts	B.S.
			College of Education	B.S.
Community Development		X		
Comparative Literature		X		
Computer Information Processing ⁹	X	X	College of Technical Careers	A.A.S.
Computer Science	X	X	College of Liberal Arts	B.A., B.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Construction Technology ⁹	X		College of Technical Careers	A.A.S.
Consumer Economics and Family Management	X		College of Technical Careers	B.S.
Consumer Studies ²		X		
Dental Hygiene ⁹	X		College of Technical Careers	A.A.S.
Dental Technology ⁹	X		College of Technical Careers	A.A.S.
Design	X	X	College of Communications and Fine Arts	B.A.
Early Childhood ⁴	X		College of Education	B.S.
Earth Science		X		
East Asian Civilization ¹		X		
Economics	X	X	College of Liberal Arts	B.A.
Educational Media ⁴		X		
Electrical Engineering	X		College of Engineering and Technology	B.S.
Electronics Management	X		College of Technical Careers	B.S.
Electronics Technology ⁹	X		College of Technical Careers	A.A.S.
Elementary Education ⁴	X		College of Education	B.S.
Engineering Technology	X		College of Engineering and Technology	B.S.
English	X	X	College of Liberal Arts College of Education	B.A. B.S.
Equine Studies ⁷		X		
Finance	X		College of Business and Administration	B.S.
Fire Science Management	X		College of Technical Careers	B.S.
Food and Nutrition	X		College of Agriculture	B.S.
Foreign Language and International Trade	X		College of Liberal Arts	B.A.
Forestry	X		College of Agriculture	B.S.
French ¹	X	X	College of Liberal Arts College of Education	B.A. B.S.
Geography	X	X	College of Liberal Arts College of Education	B.A., B.S. B.S.
Geology	X	X	College of Science	B.A., B.S.
German ¹	X	X	College of Liberal Arts College of Education	B.A. B.S.
Greek ¹		X		
Health Care Management	X		College of Technical Careers	B.S.
Health Education	X		College of Education	B.S.
History	X	X	College of Liberal Arts College of Education	B.A. B.S.
Industrial Technology	X		College of Engineering and Technology	B.S.
Interior Design	X		College of Technical Careers	B.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Japanese ¹		X		
Journalism	X	X	College of Communica- tions and Fine Arts	B.S.
Language Arts (English and Reading) ⁴	X		College of Education	B.S.
Latin ¹		X		
Law Enforcement ⁹	X		College of Technical Careers	A.A.S.
Linguistics	X	X	College of Liberal Arts	B.A.
Management	X		College of Business and Administration	B.S.
Marketing	X		College of Business and Administration	B.S.
Mathematics	X	X	College of Science	B.S.
			College of Liberal Arts	B.A.
			College of Education	B.S.
Mechanical Engineering	X		College of Engineering and Technology	B.S.
Microbiology	X	X	College of Science	B.A.
Mining Engineering	X		College of Engineering and Technology	B.S.
Mortuary Science and Funeral Service ⁹	X		College of Technical Careers	A.A.S.
Museum Studies		X		
Music	X	X	College of Communica- tions and Fine Arts	B.Mus., B.A.
			College of Education	B.S.
Office Systems and Specialties ⁹	X	X	College of Technical Careers	A.A.S.
Paralegal Studies for Legal Assistants	X	X	College of Liberal Arts	B.S.
Philosophy	X	X	College of Liberal Arts	B.A.
Photographic Production Technology ⁹	X		College of Technical Careers	A.A.S.
Physical Education	X	X	College of Education	B.S.
Physical Therapist Assistant ⁹	X		College of Technical Careers	A.A.S.
Physics	X	X	College of Science	B.S.
			College of Education	B.S.
Physiology	X	X	College of Science	B.A.
Plant and Soil Science	X	X	College of Agriculture	B.S.
Political Science	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Psychology	X	X	College of Liberal Arts	B.A.
Radio-Television	X		College of Communica- tions and Fine Arts	B.A.
Radiologic Technology ⁹	X		College of Technical Careers	A.A.S.
Recreation	X	X	College of Education	B.S.
Religious Studies	X	X	College of Liberal Arts	B.A.
Respiratory Therapy Technology ⁹	X		College of Technical Careers	A.A.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Russian ¹	X	X	College of Liberal Arts	B.A.
Social Studies	X		College of Education	B.S.
Social Work	X			B.S.
Sociology	X	X	College of Liberal Arts	B.A.
Spanish ¹	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Special Major ⁸	X			B.A., B.S.
Special Education	X		College of Education	B.S.
Speech Communication	X	X	College of Communica- tions and Fine Arts	B.S.
			College of Education	B.S.
			College of Liberal Arts	B.A.
Theater	X	X	College of Communica- tions and Fine Arts	B.A.
Tool and Manufacturing Technology ¹	X		College of Technical Careers	A.A.S.
Uncommon Languages ⁵		X		
University Studies	X			B.A., B.S.
Vocational Education Studies	X	X	College of Education	B.S.
Women's Studies		X		
Zoology	X	X	College of Science	B.A., B.S.
			College of Education	B.S.

¹Described under Foreign Languages and Literatures

²Described under Consumer Economics and Family Management

³Described under Physical Education

⁴Described under Curriculum and Instruction

⁵Described under Linguistics

⁶Described under Vocational Education Studies

⁷Described under Animal Science

⁸A special major may be completed in any academic unit

⁹Qualified A.A.S. graduates may be eligible to earn a B.S. degree through the Capstone Program. See Chapter 4 for additional information.

Visits to Campus

We welcome prospective students, their families, friends, and other interested people to learn about Southern Illinois University at Carbondale through various on-campus and off-campus events. Activities on campus include campus visits, group visit days, and open houses. SIUC Preview Programs are held in several off-campus locations around Illinois each spring.

Campus Visits. Campus visits are available by appointment Monday through Friday, 8:00 a.m. to 4:30 p.m. To make best use of the visit, plan to arrive by 2:00 p.m. Please make your reservations approximately seven days in advance. An admissions counselor will advise you about academic programs, student services, admission policies and procedures, housing options, financial aid, and general information about the University and community. Guided tours of the campus are available. Appointments with departmental representatives can be arranged with advance notice.

Group Visit Days. Group visit days are, quite simply, campus visits by groups of people. The same arrangements are available, but an advance reservation is a must.

Open Houses. Open houses are held on campus four or five times each year. Activ-

ities include admissions counseling, departmental exhibits, displays by student organizations, presentations on financial aid and other student services, campus and departmental tours, and opportunities to enjoy other events or activities.

SIUC Previews. SIUC Previews are events held in off-campus locations from January through May to bring SIUC within easy traveling distance of nearly every Illinois community. Activities include admissions counseling, small group and individual sessions on financial aid, a dynamic audio-visual presentation entitled “SIUC Today”, consultation about University housing, and information displays on many other programs and services.

For reservations for campus visits and group visit days or for information about scheduled on-campus Open House and off-campus Preview Programs, write New Student Admission Services, Southern Illinois University at Carbondale, Carbondale, Illinois 62901 or call 800-642-3531 (toll free in Illinois) or 618-536-4405 (direct).

Applying for Admission

Request application from the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4710, or call 618-536-4405. For admissions requirements see Chapter 2.

Campus Living

On-Campus Housing for Single Students

The University offers a variety of living experiences through the on-campus residence halls for single students. These halls provide not only room and board but also opportunities for participation in academic, recreational and social programs. Two distinct advantages of living on campus are the ready access to all facilities and the absence of a need for special transportation since all campus activities are within easy walking distance. Meal service in all areas except Greek Row provides 20 meals a week; three meals each day six days a week and breakfast and noon dinner on Sunday. Unlimited second helpings are offered, and a full-time dietitian is available for students who require special diets. Co-ed living is available in all housing areas. All rooms are equipped with twin-sized beds, closet space, chest of drawers, desks, study chairs, and draperies. Study lamps, pillows, towels, and blankets must be provided by the student. Housing contracts are for the school year (fall and spring semesters) with summer contracts being issued separately. The residence halls close during breaks and official University vacations.

Freshmen under the age of 21, not living with parent or legal guardian, are required to live in on-campus residence halls, or similar privately-owned residence halls. The privately-owned residence halls provide facilities, food service, and supervision comparable to on-campus housing. Sophomores under the age of 21, not living with parent or legal guardian, are required to live in on-campus residence halls or University-approved off-campus housing. Sophomore approved off-campus housing includes apartments and rooming houses. Such facilities are not required to provide food service, but must have University-approved adult managers and must be inspected by the University. There are no housing regulations for junior, senior, graduate, married students, or those students 21 years of age or over.

Rates. 1989-90 room and board rates for the three on-campus residential areas is \$2,624 (\$1,312 per semester) plus a \$12 campus housing activity fee. Students entering for fall semester must purchase a two-semester contract.

Brush Towers. Brush Towers consists of two 17-story air-conditioned halls, Mae Smith and Schneider Tower. The commons unit is Grinnell Hall which houses the food service, snack bar, post office, and area office. There is a large study area and computer lab located on the lower level of Trueblood Hall. This facility is available to Brush Towers residents. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

Thompson Point. Thompson Point consists of eleven air-conditioned halls, each housing approximately 120 students. Lentz Hall serves as the commons unit for the food service, post office, snack bar, recreation center, and game rooms. Included in the Thompson Point residential area are special facilities for disabled students. There is a study area and computer lab located on the lower level of Lentz Hall. This facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

University Park. The University Park residential area is air-conditioned and consists of Neely Hall, a 17-story residence hall, and Allen, Boomer, and Wright Halls, four-story buildings. Trueblood Hall is the commons unit housing the cafeteria, snack bar, computer room, and post office. There is a large study area and computer lab located on the lower level of Trueblood Hall. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

More information regarding on-campus housing or application forms may be obtained by writing the supervisor of contracts, University Housing, Building D, Washington Square, Carbondale, IL 62901-6716.

Greek Row. The Greek Row area provides housing for sororities and fraternities. Each building houses about forty students and includes a formal lounge, dining area, and kitchen. Assignment of students to this area is by invitation from the fraternal organization. For more information, contact the Office of Student Development, Southern Illinois University at Carbondale, Carbondale, IL 62901-4425.

Housing for Married Students

There are 587 apartments, both furnished and unfurnished, available for married students. The costs are from \$240 to \$327 per month with all utilities furnished. More information or application forms may be obtained by writing Family Housing, Building B, Washington Square, Carbondale, IL 62901-6716.

Off-Campus Facilities

University Housing seeks to influence both the availability and quality of off-campus housing for students. Several privately owned accepted living centers are available for freshmen and sophomores desiring to live off-campus. The costs range from \$250 to \$450 per month. Information may be obtained by writing directly to the supervisor of off-campus housing, Building B, Washington Square, Carbondale, IL 62901-6715. It is not considered wise to contract for an off-campus living facility, sight unseen.

Parking on Campus

Students wishing to operate and/or park a motor vehicle on campus must apply

for a parking decal at the Parking Division located at Washington Square, Building D.

Graduate students and the following categories of undergraduate students may apply for permission to use, operate, park or possess a motor vehicle on campus: 1. Juniors and seniors (with proof of 56 credit hours or more completed); 2. Students 21 years of age; 3. Veterans with two years of military service; 4. Married students; 5. Students residing in the home of a parent or guardian; 6. Students requiring a motor vehicle for reasons of health or physical condition as certified in writing by Disabled Student Services; and 7. Students not covered by 1 through 6 whose reasons for requiring a motor vehicle are judged valid by the Dean of Student Life and so certified in writing.

To purchase a decal at the Parking Division, an eligible student must present a validated student identification card, a valid operator's license, vehicle registration card, and proof of liability insurance which must be maintained for the duration of the parking decal. Students residing on campus must also present a housing contract or a meal ticket. If a parking decal is purchased, a fee is charged. This fee is determined by the type of decal an applicant is eligible for and receives. Currently student parking fees range from \$2 to \$10.

To accomodate unregistered vehicles, twenty-four hour parking is available for the first five days of any term and during final exam week of any term only in lots 56, 59, 100, and 106.

Financial Aid Office

The Financial Aid Office assists students in seeking monetary assistance to finance their postsecondary education at Southern Illinois University at Carbondale. Last year Southern Illinois University at Carbondale distributed over \$67 million in financial aid to nearly 19,400 students.

A package of financial aid is prepared for those students who qualify. The package may include scholarships, grants, work, and loans. The financial aid package offered is contingent upon both the availability of program funds and each student's demonstrated financial need, as determined by the American College Testing Program Family Financial Statement (ACT/FFS) form.

Grants and scholarships are gift aid which are not repaid to the donor. Loans are repaid after the student leaves school but are offered at a lower than market rate of interest. Student work is offered to all students who desire to earn money while attending the University.

Major Financial Aid Programs

The University participates in the major federal, state, and institutionally-funded aid programs including Pell Grant, Illinois Monetary Award Program, Stafford Loan (formerly Guaranteed Student Loan), Perkins Loan, Student-to-Student Grant, Supplemental Educational Opportunity Grant, and the Student Work Program.

The *Financial Aid Opportunities* brochure summarizes the major types of financial aid coordinated through the Financial Aid Office including a brief description of each program, the application procedures, and the corresponding deadlines. A copy of the brochure is available upon request.

Grants. The major federal grant programs include the Pell Grant and the Supplemental Educational Opportunity Grant. The largest state grant is the Illinois Monetary Award Program. These grants are based on financial need as determined by the ACT/FFS.

Scholarships. Southern Illinois University at Carbondale offers scholarships based on scholastic achievement to high school and Illinois community college transfer students (associate degree graduates only). These scholarships vary in eligibility requirements and dollar values. For more detailed information about the scholarships, students should contact New Student Admission Services.

Recipients of academic scholarships are selected annually by academic units of the University. Also, a limited number of private scholarships are available from each area. More information is available from the appropriate scholarship coordinator in each academic unit.

Students interested in seeking a private grant or scholarship should check as many sources as possible including high schools, local clubs and civic organizations, businesses, church groups, alumni organizations, and commercial lending institutions. In addition, public libraries are an excellent source for information on state and private scholarship money.

Loans. The largest programs include the Stafford Loan-SL (formerly Guaranteed Student Loan), the Parent Loan for Undergraduate Students-PLUS, the Supplemental Loan for Students-SLS, and the Perkins Loan. To apply for a Perkins or Stafford Loan, students should complete and mail the 1990-91 ACT/FFS. Both the Perkins and Stafford Loan are based on financial need. Since Perkins Loan funds are limited, students should mail the ACT/FFS before April 1, 1990. The Perkins Loan is borrowed through the school while the Stafford Loan is borrowed through the lending institution. To apply for the PLUS or the SLS, students should contact the Financial Aid Office to determine the application procedure to follow.

Employment. To apply for an on-campus student work job, students should have a processed ACT/FFS on file. Students can work a maximum of twenty hours a week at the prevailing minimum wage. Once students arrive on campus, they should review the job listing board in the Financial Aid Office to determine which jobs interest them. A referral will be given to students to interview with prospective on-campus employers. Over 6000 student workers were employed by the University last year.

In addition, a representative is available to give referrals to part-time off-campus jobs. Many SIUC students choose to work off-campus in Carbondale and the surrounding area.

Application for Financial Assistance for the 1990-91 Academic Year

To apply for financial aid, students, with their parents, should complete and mail the 1990-91 American College Testing Family Financial Statement. To have Southern Illinois University at Carbondale receive a copy of the information, students should complete the ACT in its entirety, enter SIUC's school code #1144, and enclose the ACT processing fee.

The ACT/FFS allows students to apply for the major programs coordinated through the Financial Aid Office. Students should complete and mail their ACT/FFS form as early as possible since campus-based aid funding is limited and distributed to eligible students on a first-come, first-served basis. Priority consideration for campus-based aid will be given to those students who complete and mail their ACT/FFS before April 1, 1990. The ACT/FFS forms are available in December preceeding each academic year, and may be obtained from local high schools, community colleges, or from the Financial Aid Office.

Transfer Students

Students who have attended another college or university will be classified as

transfer students. Transfer students applying for financial aid must have a Financial Aid Transcript sent to the Financial Aid Office indicating all financial aid received from each college or university previously attended. Even though students may not have received financial assistance prior to attending Southern Illinois University at Carbondale, federal regulations mandate the Financial Aid Office have that verification. No aid can be awarded until all transcripts are received. Transcript forms may be obtained from the Financial Aid Office.

Students who are transferring in the middle of an academic year and are receiving a Stafford Loan (formerly Guaranteed Student Loan), Perkins Loan, Supplemental Educational Opportunity Grant, or student work can reapply for those awards by having processed information from the 1990-91 ACT/FFS forwarded to Southern Illinois University at Carbondale. Students who receive Supplemental Loan for Students or Parent Loan for Undergraduate Students should contact the Financial Aid Office to determine loan eligibility and application procedures.

Students who are transferring in the middle of an academic year and are receiving Pell Grant must obtain a duplicate set of the Student Aid Reports from the Pell Grant program to submit to the Financial Aid Office. Transfer students who receive the Illinois Monetary Award should contact the Financial Aid Office regarding the transfer process.

Academic Progress Standards for Financial Assistance

The University requires that a student be making satisfactory progress toward a degree if that student wishes to receive financial aid funds. A student is making satisfactory progress toward a degree if successfully meeting two basic academic standards. First, a student must complete a reasonable number of credit hours toward a degree each academic year. Second, a student must maintain a scholastic standing, derived from grades, that allows for continued enrollment at the University under current academic guidelines. A copy of the policy on satisfactory progress is available upon request from the Financial Aid Office.

Students desiring additional information should contact the Financial Aid Office, Woody Hall, B Wing, third floor, Carbondale, Illinois 62901-4702, telephone (Area Code 618) 453-4334.

NOTE: At the time of printing this publication, final rules and regulations for the 1990-91 academic school year were pending. Therefore, students should contact the Financial Aid Office for the most recent information.

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Academic Regulations and Procedures

Admission Policies, Requirements, Procedures

In order to attend classes at Southern Illinois University at Carbondale, students must gain official admission to the University and must complete the enrollment process, which includes advisement, registration, and payment of fees.

Applications for admission to the University are accepted anytime during the calendar year but should be submitted at least thirty days prior to the beginning of classes.

The University may close admission for students or programs whenever the availability of faculty or facilities warrant.

All beginning freshman applicants must submit entrance examination scores except those who are twenty-one years of age and who qualify for admission by class rank. Transfer students are also required to submit entrance examination scores if they are less than twenty-one years of age and have fewer than twenty-six semester hours (thirty-nine quarter hours) of acceptable transfer work. Currently the ACT (American College Test) is the required entrance examination.

The College of Engineering and Technology, the College of Business and Administration, the Department of Radio-Television, the School of Journalism, and the aviation flight major have implemented new admission policies. These new policies are described in Chapters 3 and 5.

Admission of Freshmen

To be eligible for admission, applicants must be graduates of recognized high schools. Graduates of nonrecognized high schools may be admitted to the University by an entrance examination. Persons who have not completed high school may be considered for admission by completing the GED test provided they meet the requirements to write this examination.

All admissions granted students while in high school are subject to the completion of high school course patterns for which conditional admission was granted, and graduation from high school.

Students entering the University as freshmen are admitted to the colleges within the University that offer the academic programs they indicate they plan to pursue. Students who are undecided as to the course of study they want to follow are admitted to the Undergraduate Academic Services unit in pre-major advisement or to selected other units with an undecided major.

Students who are admitted as beginning freshmen but enroll at another college or university prior to their enrollment at Southern Illinois University at Carbondale will automatically void their admission as beginning freshmen. It will be necessary for the student whose admission is voided to reapply for admission and be considered for admission accordingly.

Beginning freshmen are considered for admission on the basis of a combination of class rank and test scores. In addition, students entering the University in the summer of 1990 and later are required also to have completed selected high school courses to qualify for regular admission. This policy applies to beginning freshmen and transfer students who have completed fewer than twenty-six semester hours of transferable credit.

The high school courses which must be completed satisfactorily by students entering baccalaureate programs for regular admission are: three years of English (emphasizing written and oral communications and literature), three years of mathematics (algebra through advanced algebra, geometry, trigonometry or fundamentals of computer programming), two years of science (laboratory sciences), two years of social studies (emphasizing history and government), and one year of foreign language, art, music, or vocational education (if foreign language is taken it must include two semesters of the same language).

Associate degree applicants must have completed satisfactorily: three years of English, two years of mathematics, one year of science, and two years of social science. The course content must be the same as that previously indicated for baccalaureate students.

Students who qualify for admission based on class rank, test scores and transfer grade point average, but have course pattern deficiencies, can be considered for provisional admission to the University.

Selected applicants will not be required to meet the high school subject requirements. These include students who are twenty-one years of age or older, students whose class rank and ACT test scores are at the seventy-fifth percentile (a standard composite score of 24 or a composite score of 25 on the Enhanced ACT), veterans, and transfer students who have earned twenty-six semester hours of transferable credit.

Beginning freshmen may satisfy a course pattern deficiency by achieving a subscore on the ACT which is equivalent to the sixteenth percentile on the College Bound Norms. The student subscores required to satisfy a course deficiency in the 1988-89 ACT or previous tests are: English 21; Mathematics 21; Social Studies 21; and Science 24. The Enhanced ACT subscores are : English 24 and Mathematics 22. Subscore equivalencies for Reading and Science were not available when this catalog was printed. Deficiencies may also be fulfilled by CLEP scores or AP credit. A student who has a deficiency which is not corrected by test scores must complete a freshman level course in the General Education program that corresponds to the subject area deficiency. This course will be used for graduation credit but it can not be used to fulfill a general education requirement.

Transfer students who have satisfied a course pattern deficiency at another institution will have such credit applied toward graduation but it cannot be used for general education credit.

ADMISSION OF FRESHMEN TO BACCALAUREATE PROGRAMS

High school graduates who: (1) have an entrance examination score at the fiftieth percentile or higher (a standard composite score of 19 or a composite score of 21 on the Enhanced ACT), or (2) have an ACT score at the thirty-third percentile or higher (a standard composite score of 16 or a composite score of 19 on the Enhanced ACT) and rank in the upper half of their graduating class based on class rank are eligible for admission to any semester. In addition, students must meet the course pattern requirements described above for unconditional admission. Those students who meet class rank and/or test score requirements, but have course pattern deficiencies.

Applicants seeking admission to programs in the Colleges of Business and Administration, Engineering and Technology, and the department of Radio-

Television or the School of Journalism should review the admission requirements for these programs in Chapters 3 or 5.

High school graduates who do not meet the admission requirements above are urged to submit applications for admission to the University. If they demonstrate potential for academic success, they may be considered for admission through the Special Admissions Program. Students admitted through the Special Admissions Program are admitted in good standing. They are required to participate in academic assistance activities.

Students who are less than twenty-one years of age and have completed satisfactorily the General Educational Development Test can qualify for admission by achieving an entrance examination score above the thirty-third percentile.

ADMISSION OF FRESHMEN TO ASSOCIATE DEGREE PROGRAMS

High school graduates who rank in the upper two-thirds of their graduating classes based upon class rank or by score on the ACT (a standard composite score of 16 or a composite score of 19 on the Enhanced ACT) are eligible for admission to any semester. Students who have passed the General Educational Development Test are also eligible for admission for any semester.

Students who request admission to Associate degree programs must meet the course pattern requirements previously noted. Applicants admissible by means of class rank or test scores, but deficient in course patterns, will be granted provisional admission.

The aviation flight major in the College of Technical Careers, because of limited resources, currently requires applicants to meet baccalaureate admission requirements. This includes class rank, test scores, and course pattern requirements.

Students who did not meet the University baccalaureate admission requirements to enter as freshmen from high school during the regular academic year and elect to enter an associate degree program in the College of Technical Careers will not be considered for admission to a four-year program until they have completed 26 semester hours and have an overall C average.

The following majors have selective admission requirements which are above regular requirements: commercial graphics-design, dental hygiene, dental technology, mortuary science and funeral service, radiologic technology, and respiratory technology. Qualified applicants are accepted to these programs with a pre-classification, for example, pre-dental hygiene. Students are granted "pre" admission to these programs, but this admission does not mean final acceptance into the given major. The program faculty make the final selection of students to their respective departments.

Many courses are offered on a sequential basis in the College of Technical Careers. Therefore, some programs allow admission only in the fall. Applicants should review the admission application guide to determine when selected programs will allow students to enter the College of Technical Careers.

Admission of Transfer Students

A student who has attended another college, university, or postsecondary institution is required to submit an official transcript from each institution attended. All transcripts become the official property of Southern Illinois University at Carbondale and will not be returned nor issued to another institution.

Students applying for admission to the University with previous post secondary education will be considered for admission as follows:

1. A student who has been enrolled in an institution which is accredited by one of the regional accrediting associations or an institution in candidacy status will be considered for admission on the basis of the regular transfer admission standards, or

2. A student who has attended an institution which is not accredited by or in candidacy status with one of the regional accrediting associations will be considered for admission on the basis of the regular transfer admission standards if the credit from that institution is accepted by the reporting institution in that state, or

3. A student who has completed a nonbaccalaureate two-year or equivalent terminal program with a *C* average in an institution which is not accredited by or in candidacy status with one of the regional accrediting associations will be admitted if the institution is one recognized by NATTS, AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. Students admitted from such institutions should not expect to receive credit at Southern Illinois University at Carbondale except in programs which offer occupational credit.

Even though a student has attended another college or university, the student is required to have graduated from a recognized high school or completed satisfactorily the General Educational Development Test.

All grades earned in transferable courses and in courses with a grade point value are used to calculate the grade point averages used for admission purposes. This includes grades earned in repeated courses, except those completed prior to the 1971 summer session. Transfer work is calculated according to Southern Illinois University at Carbondale regulations rather than those of institutions students have previously attended.

Transfer students who have been suspended for any reason other than academic failure must be cleared by the Student Life Office before admission will be granted by the director of admissions.

Transfer students will be admitted directly to the college in which their major fields of study are offered. Students who are undecided about their major fields of study will be admitted to the Undergraduate Academic Services unit in pre-major advisement or to selected other units with an undecided major.

Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their matriculation if they plan to transfer without interruption. Students who are enrolled in a collegiate program for the first time and wish to transfer upon completion of their first term or first year may do so if they meet the University's admission requirements for beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will have an overall *C* average and be eligible to continue at the last school attended at the time of matriculation. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission will have their admission and registration withdrawn.

ADMISSION OF TRANSFER STUDENTS TO BACCALAUREATE PROGRAMS

Students who have an overall *C* average, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution of attendance will be eligible for admission to any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as a transfer student.

Applicants seeking admission to programs in the Colleges of Business and Administration, Education, and Engineering and Technology, and the departments of Radio-Television or Journalism must review the requirements in Chapters 3 or 5. Admission policies are more selective for majors in these units and departments.

Students who do not meet the University's transfer admission requirements will have their applications reviewed thoroughly. Students who have been placed on

scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, and (4) previous academic performance.

Students who have graduated with an associate degree in a baccalaureate-oriented program from an accredited Illinois two-year institution may enter Southern Illinois University at Carbondale in good academic standing any semester provided they have not taken additional college work since their graduation. If they have, their admission will be considered on the basis of their conformity to the University's regular transfer admission standards.

Students who are transferring from programs which are not baccalaureate-oriented should refer to the section titled transfer credit for additional information.

ADMISSION OF TRANSFER STUDENTS TO ASSOCIATE DEGREE PROGRAMS

Students who have an overall *C* average, 2.0 on a 4.0 scale (all institutions), and are eligible to continue their enrollment at the last institution attended are eligible to be considered for admission for any semester. If a student is seeking admission with fewer than twenty-six semester hours, the applicant will be required to meet the admission requirements of a beginning freshman as well as transfer students.

Students who do not meet the University's transfer admission requirements will have their applications reviewed thoroughly. Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if an interruption of education has occurred and there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, or (4) previous academic performance.

A student who is admitted to an associate degree program as a transfer student and then decides at a later date to enter a four-year program must meet the University's baccalaureate admission requirements at the time of transfer.

New students may be admitted only for the fall semester to select majors in the College of Technical Careers. Please consult the admission application guide to determine when new students can be admitted to two-year programs in the College of Technical Careers.

Admission of International Students

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are considered for admission on the basis of their former academic work, English proficiency, and evidence of adequate financial resources.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed fewer than two years of study in a United States high school, (3) have completed fewer than two years (56 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary

education in a country where English is the native language are required to submit scores from either the American College Test or the Scholastic Aptitude Test.

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination. Immigrants who have completed at least two years of study in a United States high school, have earned sixty semester hours in a United States college or university, or have completed their secondary education in a country in which English is the native language are not required to submit TOEFL scores or write a special English examination. They may, however, be required to submit university entrance examination scores if they are seeking admission as beginning freshmen or transfer students with fewer than twenty-six semester hours.

International students whose secondary school and college records are acceptable for admission purposes must achieve high enough TOEFL scores for unconditional admission. Students with a TOEFL score of 520 or higher will be granted unconditional admission. Applicants whose TOEFL score is less than 520 will be admitted contingent upon completion of an English re-test administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language.

An administrative service fee of \$100 per student per semester including summer session will be charged to sponsoring agencies which enroll international students.

International students interested in making application to Southern Illinois University at Carbondale should address their inquiries to the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

This school is authorized under Federal law to enroll nonimmigrant alien students.

Admission of Former Students

Students who have attended another institution since their previous enrollment at Southern Illinois University at Carbondale must submit an official transcript from that institution before they can be considered for readmission. In addition, a student who has a financial obligation to the University must clear this hold before being considered for readmission. Students who were suspended for scholastic or disciplinary reasons during their previous enrollment at the University must be approved for readmission by the appropriate academic or student services dean before they can be readmitted to the University. Students with less than a C average must be approved for readmission by an academic dean if they are entering an academic unit other than the one in which they were previously enrolled.

Reentering students seeking admission to the Colleges of Business and Administration, Education, Engineering and Technology, and the departments of aviation flight and radio-television and the school of journalism, should review the program/department requirements for reentry students.

It is advisable for former students to initiate the readmission process with the Office of Admissions and Records early. This permits students to complete any special requirements that may be imposed upon them. (See Scholastic Probation, Second Chance and Suspension System elsewhere in this catalog for further information.)

Admission of Special Categories of Students

Several types of students are given special consideration when seeking admission to the University. These are described below:

ADMISSION OF VETERANS

Veterans seeking admission or readmission to the University are admitted in good standing regardless of their previous academic record provided that either (a) no additional education has been attempted or (b) such additional education has been of *C* quality or better. Prior academic work of an admitted reentering veteran is counted together with all subsequent work after admission. Veterans are required to submit all required admission credentials before their applications can be processed. This includes high school transcripts or GED scores and official transcripts from each college or university previously attended.

Military personnel on active duty in any branch of the United States military are expected to meet the same admission requirements as a veteran. Students in military programs are admitted directly into the degree program in which they are enrolling. Military program students whose credentials are not submitted by the end of the second semester will not be allowed to enroll further until all credentials are received.

EARLY ADMISSION POLICY FOR FRESHMEN

Exceptionally capable high school students who have completed their freshman year in high school, are recommended in writing by their high school principals, and are approved for admission by the University director of admissions will be permitted to enroll in University courses subject to departmental approval. Students approved for admission to this program will be permitted to enroll in University courses during the summer and concurrently with their high school work during the regular school year. Sophomores and juniors may register for one course and seniors may enroll for one and possibly two courses depending on their high school schedules.

The concurrent enrollment program is an acceleration and enrichment experience for academically capable students. To participate in the program, students must have achieved an overall *B* average (3.0 on a 4.0 scale) in high school.

The University courses to be taken in this program should be in subject areas in which a high school does not offer courses or in subject areas in which the student has completed all of the courses the high school can offer. When a high school principal recommends a specific course or courses to be taken, an academic adviser will assist the student in arranging such a schedule.

It is assumed that high school principals who recommend students for this program will consider a student's aptitude for completing college work and a student's ability to adjust socially to the campus community.

SECOND CHANCE PROGRAM

The Second Chance Program is designed to allow some former Southern Illinois University at Carbondale students who had a poor scholastic performance in their initial enrollment a second opportunity to demonstrate their academic capabilities. The program permits students in selected majors to establish a new grade point average calculated from their first semester of readmission. Not all University departments are participating in the Second Chance Program. A listing of those not participating appears below.

Program Eligibility Requirements. Former Southern Illinois University at Carbondale students who meet one of the following qualifications may apply for entrance to the Second Chance Program.

1. Adult reentering students who are at least twenty-four years of age and who previously earned fewer than 60 semester hours at Southern Illinois University at Carbondale with less than a 2.0 grade point average. In addition, applicants who

have attended any post secondary institution, college, or university including Southern Illinois University at Carbondale within the immediate three years prior to reentering Southern Illinois University at Carbondale in the Second Chance Program must have earned a 2.0 cumulative grade point average for collegiate work taken during that period.

2. Veterans who have completed at least one year of active military service after having previously completed fewer than 60 semester hours at Southern Illinois University at Carbondale with less than a 2.0 grade point average. Southern Illinois University at Carbondale must be the first institution attended since discharge or separation.

3. Community college graduates who have previously earned less than 60 semester hours from Southern Illinois University at Carbondale with a grade point average below 2.0 prior to completing an associate degree from a regionally accredited institution. Southern Illinois University at Carbondale must be the first institution attended since earning the associate degree.

Program Academic Regulations.

1. A former Southern Illinois University at Carbondale student may be readmitted to the Second Chance Program only once and must meet the readmission requirements of the University which are in effect at the time of readmission to the University under the Second Chance Program.

2. Students readmitted to Southern Illinois University at Carbondale through the Second Chance Program may not enter the following programs which are not participating in the Second Chance Program.

Accounting	Finance
Advanced Technical Studies	Health Care Management
Aviation Maintenance Technology	Interior Design
Avionics	Management
Aviation Flight	Marketing
Aviation Management	Mechanical Engineering
Business and Administration	Mining Engineering
Business Economics	Physical Education (athletic training and teacher education specializations)
Business—Undecided	
Civil Engineering	
Consumer Economics and Family Management	Radio-Television
Electrical Engineering	Social Work
Electronics Management	University Studies

In addition to the above programs, Teacher Education Programs in the College of Education as well as those majors in other colleges in which a student intends to pursue a Teacher Education Program are not available to students in the Second Chance Program.

Students interested in business and engineering majors may be readmitted through the Second Chance Program with a pre-business or a pre-engineering classification. However, before students can change their major to a program in which a baccalaureate degree can be earned in the College of Business and Administration or the College of Engineering and Technology, they must meet the admission and retention requirements of those majors at the time they request a change in their major.

3. Students who are readmitted through the Second Chance Program will have "Second Chance" indicated on their transcripts with an appropriate explanation

of the program included in the transcript explanation sheet which is attached to all transcripts.

4. Students who are readmitted through the Second Chance Program must meet the curricular requirements stated in the undergraduate catalog in effect for either the term of their reentry or for subsequent terms after their reentry to Southern Illinois University at Carbondale under the Second Chance Program.

5. A new Southern Illinois University at Carbondale grade point average will be calculated from the first term of readmission through the Second Chance Program.

6. The new Southern Illinois University at Carbondale grade point average will apply only to scholastic retention, financial aid, and the grade point average required for graduation from the University. All grades earned at Southern Illinois University at Carbondale including all work taken prior to admittance to the Second Chance Program will be used in the calculation of student classification, major program grade point average, collegiate unit requirements, and total semester hours completed.

7. Previously earned work at Southern Illinois University at Carbondale will remain on the student's official record and passing work may be used to satisfy degree requirements.

8. Students who are readmitted through the Second Chance Program may not use the University's forgiveness policy to calculate another grade point average for graduation purposes.

9. To be eligible for graduation, a student readmitted through the Second Chance Program must earn at least 30 additional semester hours at Southern Illinois University at Carbondale.

ADMISSION OF ADULTS AS UNCLASSIFIED STUDENTS

Adults who have graduated from high school or who have passed the GED tests can be considered for admission as unclassified students. Students in this special category are non-degree students and are not required to submit all records normally required for admission to degree programs.

Non-military personnel whose admission credentials are incomplete are admitted to off-campus courses or degree programs as unclassified students. Unclassified students taking courses in off-campus degree programs have one semester to submit all of their admission records. Future registrations will not be allowed for students who are participating in off-campus degree programs and have incomplete admission records. Students who are taking off-campus courses in which a degree program is not offered may take twenty-six semester hours before they are required to submit all of their academic records. Those students whose records remain incomplete upon completion of twenty-six semester hours will not be allowed to register for any additional courses.

Records submitted by students participating in off-campus courses and degree programs will be reviewed in accordance with current University admission policies. Students who have completed fewer than twelve semester hours at the University and did not meet the current admission requirements will have their academic status changed to scholastic probation.

ADMISSION OF TRANSIENT STUDENTS

Students who are attending other collegiate institutions and want to enroll for one semester must submit an application for admission. They must submit also documentation indicating they have an overall C average and are eligible to continue their enrollment at the last institution attended. This can be a student's most recent transcript or grade report. Transient students who request to con-

tinue their enrollment for subsequent semesters must submit all documents required for admission and meet the University's current admission policies.

Applying for Admission

High school students may initiate the admission process following completion of their sixth semester in high school. Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their date of matriculation if they plan to transfer without interruption. Transfer students who intend to transfer to Southern Illinois University at Carbondale after completing one term or one year of study may be admitted prior to completing their transfer work if they qualified for admission as beginning freshmen. Students who delay their admission processing until near the start of the semester which they wish to enter may find that they are unable to do so because all the necessary documents required before the admission decision will be made have not been received. It is particularly important for transfer students to initiate the admission application process well before the starting date of the semester. Otherwise, delay in getting started, undesirable class schedules, or inability to attend the desired semester may result. Documents required in the admission process are listed below.

The admission process is initiated by writing to Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901, requesting admission materials. The materials that are sent include the application and related forms that need to be completed along with procedural instructions. Information is also included relative to housing and financial assistance.

DOCUMENTS REQUIRED FOR ADMISSION

Among the items required by the University before an admission decision is made are the following:

1. The application for admission.
2. Transcripts of previous educational experience. High school students should submit two copies of the high school transcript or a copy of the General Educational Development Test scores. Transfer students must submit to the Office of Admissions and Records an official transcript from each institution previously attended. In addition, transfer students who have earned fewer than 26 semester hours (39 quarter hours) of transfer work must provide the University a copy of their high school transcript or General Educational Development Test scores. Transfer students who have attended an institution whose credit is not acceptable for admission must also submit copies of their high school transcripts and ACT scores.
3. University entrance examination scores. All students who are less than twenty-one years of age applying for admission directly from high school and all transfer students who have completed fewer than 26 semester hours (39 quarter hours) must have their official ACT scores sent to the University from the American College Testing Program, Box 451, Iowa City, Iowa 52240.

Applications for housing and financial assistance are separate from the admission process and directions relating thereto are contained in the brochures on these subjects which the students receive as part of the admissions process.

Immunization

Beginning with the Fall 1989 term, students who enroll on-campus shall present to the Student Health Program proof of immunity evidencing the following immunizations, UNLESS they are exempt from doing so as hereinafter provided:

I. Diphtheria, Tetanus

- A) Any combination of three or more doses of DPT, DT, or Td vaccine, with the most recent dose having been received within 10 years prior to enrollment.
- B) The minimum time interval between the first and second dose must have been at least four weeks, with the third dose having been received at least six months after the second or last dose of the basic series.
- C) Receipt of Tetanus Toxoid (T.T.) vaccine is not acceptable in fulfilling this requirement.

II. Measles

- A) Immunization with live measles virus vaccine on or after the first birthday. If vaccine was received prior to 1968, proof must be provided that a live virus vaccine, without gamma globulin, was administered; or
- B) Laboratory (serologic) evidence of measles immunity; or
- C) A physician's signed confirmation of disease history and date of conclusive diagnosis.

III. Rubella

- A) Immunization with rubella vaccine on or after the first birthday; or
- B) Laboratory (serologic) evidence of rubella immunity.
- C) History of disease is not acceptable as proof of immunity.

IV. Mumps

- A) Immunization with live mumps vaccine on or after the first birthday; or
- B) A Physician's signed confirmation of disease history and date of conclusive diagnosis.
- C) Laboratory (serologic) evidence of mumps is not acceptable as proof of immunity.

PROOF OF IMMUNITY**I. Proof of immunity may be provided by a certificate of immunity containing the following information:**

- A) The month, day, and year of vaccine receipt for measles, mumps, and rubella. Whole year dates (e.g. 1980) are acceptable only when it is clear that the student was at least twelve months of age when the vaccine was received.
- B) The month, day, and year of vaccine receipt for diphtheria and tetanus.

II. Proof of immunity may also be provided by a copy of the student's Illinois high school health record which complies with the immunization requirements.**EXEMPTIONS****I. This policy does not apply to:**

- A) persons enrolled at the University prior to Fall Semester 1989;

- B) persons born before January 1, 1957;
- C) persons whose instruction solely involves research, field work or study outside of a classroom environment.

II. Medical Exemption

- A) No proof of immunization shall be required if a physician licensed to practice medicine in all of its branches, certifies that any immunization required herein is medically contraindicated.

III. Religious Exemption

- A) No proof of immunization shall be required if the person or his or her parent(s) or guardian state, in writing, an objection to immunization on religious grounds.

A student to whom this requirement applies who enrolls without providing the required proof of immunity shall be precluded from enrolling in a subsequent term until such time as appropriate documentation is presented to the Student Health Program or until a medical or religious exemption is granted by the University.

These requirements are drafted in accordance with the College Immunization Code promulgated by the State Department of Public Health. In the event that said Code is changed and conflicts with these requirements, The Code shall be controlling. If students have any questions concerning these requirements, they should contact the Student Health Program.

Transfer Credit

Transfer credit for students admitted to the university is evaluated for acceptance toward University and General Education requirements by the Office of Admissions and Records after the admission decision has been made. All credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state is accepted at the time of admission. Courses which are remedial or developmental will not be accepted for transfer. The Office of Admissions and Records will determine the acceptance of credit and its applicability toward General Education requirements. Although transfer credit from baccalaureate and non-baccalaureate programs may be considered in the admissions process, the acceptance of such credit toward specific programs requirements will be made by the department or agency directing the program.

All credit which is accepted for transfer and which is not applied to General Education requirements or to a specific program will be considered elective credit. The decision will be made depending upon the program the student has completed and the program entered at the University. A student should not expect to receive credit if the transfer work was taken at a school which is neither regionally accredited or whose credit is not accepted by the reporting institution in the state.

Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution provides that the student will: (a) be accepted with junior standing and (b) be considered to have completed the General Education requirements. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates.

Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University at Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Further information on the application of transfer work toward satisfying General Education and graduation requirements may be found in Chapter 4.

Orientation, Advisement, Registration

Through a carefully designed system of orientation, academic advisement, and registration the University attempts to assure entering students an efficient and effective introduction to the University prior to the time they start class attendance. A more extensive program is provided for those students entering during the fall semester while abbreviated activities are in operation for the other semesters.

The University conducts an advance registration system. All continuing and new students have the opportunity and are expected to complete advisement and registration for a semester before its actual start.

During the summer several weeks are set aside for new freshman and transfer students admitted for fall semester to complete advisement and registration. Students are invited to have their parents accompany them so they too may obtain a better understanding of the University than might otherwise be the case. At the start of the fall semester new students participate in orientation activities during which time they receive introduction to university life.

Starting in May and extending through June the University notifies new students admitted for the fall semester when they are to come to the campus for advisement and registration. Through this process only the number of students that can be efficiently handled are involved each day. Students who cannot come to the campus during the summer or who delay applying for admission beyond the advance registration period may register at the start of the fall semester but are required to come to campus a few days before those who have registered during the summer period.

Similar procedures are followed at the start of the other semesters. Admitted students are kept informed of orientation, advisement, registration procedures, and the times when they occur by the Office of Admissions and Records in cooperation with the Student Activities Office.

Academic Advisement

Academic advisement is administered by the academic units. Each unit employs a selected group of trained advisers. They operate under the supervision of a chief adviser who is responsible to the dean of the academic unit.

The University accepts the importance of the academic advisement function. Insistence on receipt of transcripts and ACT scores prior to admission serves not only to determine admission but later provides suitable educational information to the advisers upon which decisions can be made relative to the proper courses to advise the student to take. On the basis of this information the advisers can make intelligent decisions, relative to students who should receive advanced standing in courses or who should be urged to take proficiency examinations in courses about which they appear to be already well informed.

Registration

Registration for any session of the University is contingent upon being eligible for

registration. Thus advance registrations, including the payment of tuition and fees, are considered to be invalid if the students are later declared to be ineligible to register due to scholastic reasons. Students may also be considered ineligible to register because of financial or disciplinary reasons if this is certified to the Office of Admissions and Records by the appropriate University office.

Detailed information about the dates and procedures for advisement and registration appears in each semester's Schedule of Classes, which is available from the Office of Admissions and Records.

Students should be familiar with the following general points about registration.

1. Registration for a semester is conducted under a registration calendar consisting of three distinct periods. Advance registration occurs during the last eight weeks of the preceding term, final registration immediately preceding the start of classes and late registration during the first week of classes.

2. Currently enrolled students are expected to register during the advance registration period. New freshmen, transfer, and re-entry students are provided an opportunity to advance register on specific new student registration days during the advance registration periods.

3. Students who are unable to advance register may register prior to the beginning of classes during the final registration period.

4. Students initiate registration with the advisement center of their colleges or schools.

5. The course request forms and program change forms must be processed through the Registration Center in the Office of Admissions and Records.

6. Mere attendance does not constitute registration in a class, nor will attendance in a class for which a student is not registered be a basis for asking that a program change be approved permitting registration in that class. Students should complete the registration process before classes begin.

7. Enrollment changes to classes can only be made through the processing of an official program change form.

8. Tuition and fees are payable in advance or by installments and no student shall be enrolled in any educational unit until at least the first installment of tuition and fees have been paid or officially deferred.

9. Students may not drop a course merely by stopping attendance. (See the Withdrawal from Courses and from the University section of this chapter.)

10. There is a terminal date near the end of each semester or session after which withdrawal from the University cannot be processed prior to the assignment of grades. As a result withdrawal will be allowed only in unusual circumstances. This date is usually one week before final examinations start. The specific date appears in each appropriate Schedule of Classes.

Tuition and Fees and Other Financial Information

It is difficult to indicate the specific cost of attending the University because of the differences in personal spending habits. However, the following information may be helpful.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. Students will be assessed the following tuition and fees each term:

ON-CAMPUS UNDERGRADUATE TUITION AND FEE SCHEDULES

Illinois Residents				Non-Illinois Residents		
Semester Hours Enrolled	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 65.00	\$120.25	\$ 185.25	\$ 195.00	\$120.25	\$ 315.25
2	130.00	136.88	266.88	390.00	136.88	526.88
3	195.00	153.53	348.53	585.00	153.53	738.53
4	260.00	170.17	511.80	780.00	170.17	950.17
5	325.00	186.80	511.80	975.00	186.80	1,161.80
6	390.00	203.45	593.45	1,170.00	203.45	1,373.45
7	455.00	220.10	675.10	1,365.00	220.10	1,585.10
8	520.00	236.73	756.73	1,560.00	236.73	1,796.73
9	585.00	253.37	838.37	1,755.00	253.37	2,008.37
10	650.00	270.03	920.03	1,950.00	270.03	2,220.03
11	715.00	286.65	1,001.65	2,145.00	286.65	2,431.65
12 or more	780.00	303.30	1,083.30	2,340.00	303.30	2,643.30

STUDENT FEE DISTRIBUTION

Semester Hours Enrolled	STS Grant (1)	Student Attorney (2)	Student Center (3)	Student Activity (4)	REC (5)	Athletic (6)	Medical (7)	RBF (8)
1	\$2.25	\$2.35	\$ 3.31	\$.80	\$ 4.42	\$ 3.17	\$99.00	\$ 4.95
2	2.25	2.35	6.63	1.59	8.83	6.33	99.00	9.90
3	2.25	2.35	9.94	2.39	13.25	9.50	99.00	14.85
4	2.25	2.35	13.25	3.18	17.67	12.67	99.00	19.80
5	2.25	2.35	16.56	3.98	22.08	15.83	99.00	24.75
6	2.25	2.35	19.88	4.77	26.50	19.00	99.00	29.70
7	2.25	2.35	23.19	5.57	30.92	22.17	99.00	34.65
8	2.25	2.35	26.50	6.37	35.33	25.33	99.00	39.60
9	2.25	2.35	29.81	7.16	39.75	28.50	99.00	44.55
10	2.25	2.35	33.13	7.96	44.17	31.67	99.00	49.50
11	2.25	2.35	36.44	8.75	48.58	34.83	99.00	54.45
12 or more	2.25	2.35	39.75	9.55	53.00	38.00	99.00	59.40

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

STUDENT FEES INCLUDE

1. The Student-to-Student (STS) Grant Program Fee provides funding of a student grant program. The fee is payable by undergraduate students only. Undergraduate students who do not wish to participate in the program may seek a credit of the fee by contacting the Office of Admissions and Records within ten days of the date of payment of fees.
2. The Student Attorney Fee provides funding for the student attorney program.
3. The Student Center Fee provides funding for operation of the Student Center.

4. The Student Activity Fee provides funding for student organizations and activities on campus.

5. The Student Recreation Fund (REC) Fee provides funding for construction and operation of physical facilities for student recreation and intramural programs.

6. The Athletic Fund Fee provides partial funding of the University's intercollegiate program for men and women.

7. The Student Medical Benefit (SMB) Fee provides funding for a comprehensive health program. The \$94 medical benefits fee is divided with \$54.50 for the student health program fee and \$39.50 for the student medical insurance fee. Students who have comparable coverage may be eligible for a credit of all or part of the fees. A credit must be applied for within the first three weeks of the semester. Additional information may be found in Chapter 6.

8. The Revenue Bond Fee (RBF) replaces funds which were previously obtained from tuition payments and used to underwrite the funded debt operations of the Student Center and University Housing.

ADDITIONAL FEE INFORMATION

1. Students are urged to refer to the *Schedule of Classes* for more specific fee information.

2. A late registration fee of \$15.00 shall be assessed to all students taking on-campus classes who register after the designated registration period. This fee shall be non-refundable and non-waiverable, except when it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in courses numbered 599, 600, or 601 shall be exempt from the fee.

3. Graduate, medical, and law students are not required to pay the student-to-student grant program fee so their student fees will be \$2.25 less than the amount listed in the appropriate column above.

4. Permanent full-time or permanent part-time employees may be eligible for waiver of tuition and waiver of a portion of the student fees. Approval by the department head and the director of the Personnel Office must be given prior to enrolling for courses. Employees who are approved are required to pay the Student Center fee as listed in the table above.

5. Other charges which students may incur are those for departmental field trips, library fines, and excess breakage. Also, students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.

6. Students registering for courses on an audit basis pay the same tuition and fees as though they were registering for the courses for credit.

7. Out-of-state students will find the official University regulations governing determination of residency status for assessment of tuition later in Chapter 2.

8. Medical students are not required to pay Student-to-Student Grant Program Fee. In addition, medical students in Springfield are not required to pay Student Center, Athletic Fee, Student Recreation or the Revenue Bond Fee and pay \$39.50 of the Student Medical Benefit Fee.

9. Students enrolled in public service courses pay only tuition and \$3.00 per hour in fees. The fees are divided equally between Student Center and Student Medical Benefit Fees. Students who combine enrollment in public service courses and regular on-campus courses pay tuition and fees for the combined total of hours enrolled.

10. Students enrolling in off-campus non-contractual courses pay tuition only. Students who combine enrollment in on- and off-campus course pay tuition only for hours off campus plus tuition and fees for hours enrolled on campus.

11. Tuition and program delivery charges for students enrolled in off-campus programs for the military are established in accordance with Board of Trustees policies relating to such charges for Southern Illinois University at Carbondale cost recovery programs and are not affected by the residency status of the student.

12. An administrative service fee of \$100 per student per semester including summer session will be charged to sponsoring agencies which enroll international students.

13. In addition to the above fees, there is a graduation fee. For further information contact the Office of Admissions and Records.

PAYMENT OF TUITION AND FEES

Tuition and fees are payable each semester during the academic year. Students will receive monthly statements of account through the University billing/receivable system. The statement lists all tuition and fees assessed, charges for University housing, charges for various other services, credits applied to the student's account from financial aid sources and cash payments. It shows the balance of these charges and credits as an amount owed by the student or an amount owed to the student. The statement also will show amounts which have been previously billed, amounts which are currently due during the billing period, and amounts which will be due in the future. Payment may be made either by mail or in person at the Bursar's Office by the deadline date in accordance with instructions printed on the statement of account.

The top portion of the statement should accompany the payment. The bottom portion of the statement should be retained by students for their records. Prepayments of tuition and fees prior to detailed charges are not encouraged; however, early payments will be generally credited to the student's account and will be applied to charges made to that account.

The statements will be mailed to the student's mailing address after the fifteenth of each month. December statements of account are mailed to the student's home address.

It is the student's responsibility to maintain an accurate mailing address to which a statement of account can be mailed. Failure to receive a bill does not relieve students of the responsibility for prompt payment of amounts due. See additional information under the heading Mailing and Home Addresses.

No student shall be enrolled until the student has either paid tuition and fees in full or has paid the initial installment or has a current cancellation waiver. Other amounts due from students at the time the initial installment payment of tuition/fees is due must also be paid or students will not be allowed to enroll. Students who fail to pay the first installment and all other past due charges or who fail to obtain a waiver of cancellation will have their registrations cancelled and will be denied privileges available to a student regularly enrolled in the University. Students with cancelled registrations who want to be enrolled at the University must reregister. They will be subject to payment in full or the installment plan in effect at the time of their reregistration. They may also be subject to a late registration fee.

A service charge of one and one-half percent per month will be assessed on all accounts which are delinquent. To avoid the service charge, students must pay the minimum amount due printed on the statement prior to the next billing date. More detailed information is in the *Schedule of Classes* published each semester.

Following the end of each semester, students not registered for the next semester who have delinquent account balances will receive a series of itemized statements requesting payment. If payments, or arrangements, are not made on a timely basis, the account may be placed with a collection agency with a collection fee added to the account. Should it be necessary for an outside agency to effect a collection, reasonable collection costs shall be 33¹/₃% of such amount and shall be

paid by the debtor. If the University obtains judgment from a court of competent jurisdiction, the debtor shall be liable for the collection agency fee as well as reasonable court costs and attorney's fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they processed the program change within the first three weeks of the semester, they will receive a refund provided their account carries no other charges.

Installment Payment Plans. There are several installment payment plans and eligibility will depend on where students attend class and when they register. The University reserves the right to alter the payment plans offered and in some plans to require prepayment of part or of all a student's charges prior to registration. The basic criterion for eligibility in installment payments is that the student must be attending classes on the Carbondale campus or School of Medicine classes in Springfield. Payment plans for students attending classes on the Carbondale campus or School of Medicine classes allow tuition and fees to be paid in up to four installments for fall or spring semesters and up to two installments for summer term, depending on when students process their registrations. Students who opt for installment payment need only to pay the minimum amount due indicated on the May, July, or December statement of account by the stated deadline. There is no installment payment plan for students who only attend classes off-campus. A one and one-half percent service charge will be assessed on all minimum amounts not paid prior to the next billing. Students in military contractual programs are not subject to a service charge.

MAILING AND HOME ADDRESSES

The University maintains both mailing and a home address for students. Accurate addresses are very important for students to ensure receipt of timely mail from the University.

The mailing address is used by the University to address the monthly billing and receivable system statement of account, refunds, and other correspondence. December statements of account are mailed to the student's home address.

The home address maintained by the University is the permanent home address of students or the address at which students will promptly receive mail when they are absent from Carbondale. Foreign students should change the home address of their native country to the United States address to which their mail may be sent whenever classes are not in session. Married students should change their home address to the same address which they use as their mailing address.

Grade reports and advanced registered student schedules are mailed to the students home address in August, December, and May. December statements of account are mailed to the student's home address.

DEADLINES FOR WITHDRAWING FROM SCHOOL TO RECEIVE A REFUND

If Classes Meet for	Deadline for Withdrawal to Receive Refund
13-16 weeks	3rd week
9-12 weeks	2nd week
7 or 8 weeks	2nd week
4-6 weeks	1st week
2 or 3 weeks	1st week
less than 2 weeks	2nd day

Students who officially withdraw from school by the specific withdrawal deadline will receive a credit to their University account. Students with credit balances in their account will receive a refund by mail approximately three weeks from the date of withdrawal. No refunding of tuition and fees is made for a withdrawal occurring after the deadlines, except as described in the section titled Tuition and Fee Refund Policy and Procedures.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). If students withdraw during the sixth through tenth weeks of school, they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

TUITION AND FEE REFUND POLICY AND PROCEDURES

Tuition and all general student fees shall be refunded to students who officially withdraw from the University by the withdrawal deadlines specified by Board of Trustees policy. Action on any request for refund of tuition and fees shall be in compliance with Board of Trustees policy and these procedures. For refund of tuition and fees prior to the withdrawal deadlines, the following will apply.

Request for a withdrawal from the University is initiated in the Office of Student Life and approved by the student's academic dean as part of the normal withdrawal procedures.

Refund of tuition and fees based on withdrawal from the University on or prior to the withdrawal deadlines is made without consideration of the student's reason for withdrawing.

No tuition or general student fees shall be refunded in cases where withdrawal occurs after the deadlines stated in Board of Trustees policy, except for students in grave circumstances who demonstrate that, for reasons beyond their control, they are utterly unable to continue their educational programs. Refunds of tuition and general student fees approved in such cases are made at the University's discretion upon a determination by the president or his designee of the existence of one of the following conditions.

Accident or illness occurring prior to the withdrawal deadline which incapacitated the student and made it impossible for him/her to withdraw prior to the deadline.

Accident or illness in the student's immediate family which occurs prior to the withdrawal deadline and is of such nature as to prevent the student from continuing his/her education.

Emotional or psychological trauma resulting from an incident which occurred prior to the deadline and for which the student is undergoing counseling or therapy.

A disciplinary, academic, or financial aid termination appeal which is not accepted if the appeal was initiated prior to the withdrawal deadline.

Induction into military service for a period not less than six months.

The refund of tuition and fees in cases where withdrawal from the University occurs after the deadlines specified in the Board of Trustees refund policy is governed by the following procedures.

The vice president for Student Affairs or his designee will serve as the president's representative for considering requests for refund of tuition and fees after the time period specified in the refund policy.

Request for such refunds are initiated in the Office of Student Life which will furnish the student with the necessary information and appropriate form.

A student requesting a refund after the specified periods must withdraw from the University before the request for refund will be acted upon.

Tuition and fees will not be refunded for courses which have already been completed earlier in the semester and for which a final grade has been earned.

The student must submit written verification of the reasons supporting the request, i.e., (a) written verification from a physician as to the accident or illness to the student or in the student's immediate family and the student's inability to withdraw prior to the deadline; or (b) written verification from a physician or counselor which supports his/her statement concerning emotional or psychological trauma and which substantiates that the trauma resulted from an incident which occurred prior to the deadline; or (c) a copy of the letter denying a disciplinary, academic or financial aid termination appeal and verification that the appeal was filed prior to the withdrawal deadline; or (d) written correspondence from the military which verifies when the student is to report for military service and the length of time for which the student is expected to serve.

The student requesting the refund shall be required to substantiate to the dean of the Office of Student Life's satisfaction the nature, extent, and seriousness of conditions or circumstances which are the basis for the refund request.

The dean of the Office of Student Life will make a decision on the request and inform the student as soon as practical. Refund approvals will then be forwarded to the Office of Admissions and Records for processing.

DEFERMENT OF TUITION AND FEES

When a student's financial aid has been delayed, or the funds which a student anticipates using to pay tuition and fees are unavailable by the regular due date for tuition and fee payment, the student may apply for an extension of the payment deadline date through a process called waiver of cancellation. Cancellation waivers are available to students who can demonstrate that they meet minimal eligibility criteria and can provide written verification of an ability to pay. Information on cancellation waivers is publicized each semester in the Office of Admissions and Records, the Bursar's Office, the Student Work and Financial Assistance Office, and the *Daily Egyptian*. Eligibility criteria and procedural guidelines may vary from term to term and year to year. Students are advised to seek out the accurate information rather than assume they qualify.

Students applying for a cancellation waiver must first complete registration. Written verification from the source of funds to be used to pay tuition and fees must be presented in person to the Student Work and Financial Assistance Office for those students with approved scholarships, grants, or loans, or any combination of these. Instances of exceptional need will be referred to a financial aid officer when the source of funds is other than those identified above. Additional information on cancellation waivers is available in the Student Work and Financial Assistance Office. Phone or mail requests for deferments will not be accepted.

Grading, Scholastic Regulations, and Credit

GRADING SYSTEM EXPLANATION

The grades of *A*, *B*, *C*, *D*, and *F*, are included in determining student grade point averages.

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor

but not to exceed one year from the close of the term in which the course was taken, or *graduation*, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. Students should not reregister for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Reregistration will not prevent the *INC* from being changed to an *F*.

Grading System

GRADE SYMBOL	DEFINITION	GRADE POINTS PER HOUR
A,	Excellent.....	4
B,	Good.....	3
C,	Satisfactory.....	2
D,	Poor.....	1
F,	Failure.....	0
P,	Pass. Used only in Pass/Fail system. See Grading System Explanation below.	
PR,	Work in Progress. See Grading System Explanation below.	
W,	Authorized withdrawal. See Grading System Explanation below.	
INC,	Incomplete. See Grading System Explanation below.	
AU,	Audit. No grade or credit earned. See Grading System Explanation below.	

For *mandatory* Pass/Fail courses, the grades of *P*, when the student's work is satisfactory, or *F*, when the student's work is unsatisfactory, may be recorded. For a *P*, the hours apply toward graduation but the grade does not affect the grade point average. For an *F*, the hours do not apply toward graduation but the grade does count in the grade point average. If a student receives an *INC* in a Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained above.

Students enrolling for an *Audit* must designate their intent to enroll on an *Audit* basis at the time of registration or prior to the end of the third week of a sixteen-week semester and prior to the end of the second week of an eight-week summer session. An equivalent prorated amount of time would be allowed for courses of shorter duration. Students registering for short courses must register for *Audit* prior to the beginning of those classes. Students registering for a course on an *Audit* basis receive no letter grade and no credit. Auditors' Course Request Forms must be marked accordingly, and they pay the same fees as though they were registering for credit. They are expected to attend regularly and to determine from the instructor the amount of work expected of them. If auditing students do not attend regularly, the instructor may determine that the student should not have the audited course placed on the academic record maintained in the Office of Admissions and Records.

PR is an authorized grade for specifically approved undergraduate courses. It is used for required general education courses which have been designated as ones in which students must receive a grade of *C* or better. The grade is given only to students who regularly attend class and attempt to complete the required work. The grade is to be used only once per student for any given course. The course provides additional instruction for those students not making adequate progress. Students who receive a *PR* grade must reregister for the course within a time period not to exceed a year from the end of the semester in which the course is taken. The grade earned in the course for which the student reregisters will be included

in the grade point average. Failure to complete the course within the year will result in the *PR* automatically becoming an *F*. The *F* will be included in grade point computation.

WITHDRAWAL FROM COURSES AND FROM THE UNIVERSITY

If Classes Meet for	Deadline for Withdrawal to Receive Refund	Deadline to Withdraw*
13-16 weeks	3rd week	8th week
9-12 weeks	2nd week	6th week
7 or 8 weeks	2nd week	4th week
4-6 weeks	1st week	3rd week
2 or 3 weeks	1st week	1st week
less than 2 weeks	2nd day	2nd day

*In each instance, one day beyond the time listed will be allowed for processing of the withdrawal. Also, refer to the section on withdrawal from the University for a special provision concerning withdrawal from school beyond the 8th week.

Students who officially register for a session may not withdraw merely by the stopping of attendance. They need to process an official withdrawal form. Outlined below are the procedures to be followed by students when withdrawing from courses and when withdrawing from the University (all courses for which registered).

Course Withdrawals. Students officially withdraw from courses through the program change process. This process starts with the academic adviser and is completed at the Registration Center. Official course withdrawals during the first three weeks of the semester result in no entry being made on the student's record. Periods prior to withdrawal deadlines for shorter sessions are correspondingly shorter. Unless a student has processed an authorized withdrawal from a course by the deadline in the schedule above, the student will not be allowed to withdraw from the course. It is the student's responsibility to ensure that the withdrawal process is officially completed. It is probable that a student who does not withdraw by the deadlines, but stops attending during the second half of the semester, will receive a grade of *F*.

Withdrawal From the University. Students registered for academic work must obtain a withdrawal if they contemplate leaving the University. The only exception is the student registered for summer school who decides not to attend but will return fall semester. If the student has not made any tuition and fees payment for summer, the registration will be cancelled. If the student has paid for tuition and fees, a withdrawal must be processed. If a summer housing contract has been purchased, the student must contact University Housing to cancel the contract.

Withdrawal from the University is a serious decision which, in many cases, affects financial assistance status, housing contracts, and academic records. A student may, with authorization from the Student Life Office and the academic dean, obtain a withdrawal. There are, however, restrictions on a withdrawal. A withdrawal will not be issued beyond the eighth week of the semester unless the reasons for the withdrawal are beyond the student's control and verified in writing. Warning: if a student obtains a withdrawal after week three and is receiving financial assistance, the student may be in violation of the Satisfactory Progress for Financial Assistance policy since no academic credit will be earned for the semester. The table above provides the deadline dates for withdrawal.

Students receiving a withdrawal within the first three weeks will, under nor-

mal circumstances, receive a refund of all tuition and fees paid by the student or family. All financial assistance funds will be returned to their original sources if the student withdraws during the first three weeks.

Students receiving a withdrawal between week three and week eight will receive no refund and will not receive grades.

Withdrawal from the University does not relieve the student from housing contract obligations. Each student must contact University Housing and resolve the contract issue with that office.

All students seeking a withdrawal must contact the Student Life Office in person or by mail. The withdrawal, if granted, will be dated at the time of the initial contact with that office, provided the student completes the requirements for the withdrawal. Incomplete applications for withdrawal will be denied. Any student who fails to comply with the withdrawal procedures will receive grades for the semester and must satisfy the financial obligations for the semester.

Refunds of tuition and fees after week three are regulated through a separate policy. The student must complete the withdrawal process and then petition for a refund. The petition is available in the Student Life Office and the decision on the request will be made by the dean of student life and shall be final.

PASS/FAIL GRADING SYSTEM

Certain courses which, in the judgment of the department or program, have been determined to be inappropriate for the traditional grading system are designated as Mandatory Pass/Fail. Courses which carry this designation include the words, Mandatory Pass/Fail, at the end of the course descriptions in Chapter XX. For courses taken on a Mandatory Pass/Fail basis, completed grades will be either a *P* or an *F*. The grade of *P* is not included in the grade point average but the hours earned apply toward graduation. The grade of *F* is computed in the grade point average as a failure but no hours of credit are earned. If a student receives an *INC* in a Mandatory Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained in the Grading System Explanation above.

In addition to the Mandatory Pass/Fail courses, an Elective Pass/Fail grading policy was in effect through the end of Spring Semester, 1987. The regulations concerning the discontinued policy appear in the 1986-1987 undergraduate bulletin.

CHANGING OF GRADES

Grades given at the end of a course are final and may not be changed by additional work or submitting additional materials. When work is completed for a course in which an *INC* grade has been given, instructors notify the Office of Admission and Records of that fact, along with the final grade to be given, by completing a Grade Change Card.

Occasionally, students may wish to question grades given, either for accuracy or for removal of grades in situations when they were unable to perform some required step for reasons beyond their control. Only the assigned instructor for a course has the authority to change a grade except in the instance when the instructor is no longer employed by the University. Extenuating circumstances which transcend faculty judgment of the instructor may be appealed through procedures established by the instructor's school or college. Matters related to faculty judgment in grading may not be appealed. Any change of grade, except for changing an *INC* to a final grade within the time period designated, must be signed not only by the instructor but also by the departmental chairperson and the dean of the academic unit.

Scholastic Standing

The matter of scholastic standing is quite often of importance to students both while in school and later when they present a transcript of their educational record in support of their application for employment or additional schooling.

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, the scholastic standing and the grade point average for that semester or session and for the overall record at Southern Illinois University at Carbondale. It is important that students understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated grade point averages, except that transfer students who are admitted on probationary status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned before they can be removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.0 (C) average is required for the work taken at this University.

In computing students' grade point averages all grades of A, B, C, D, and F are included in determining the number of *calculated* hours. Each hour of these grades (1 hour of A is worth 4 grade points) is given its numerical grade points, and the total number of calculated hours is then divided into the total number of grade points to determine the student's grade point average.

Effective with the 1971 summer quarter all earned grades carrying grade point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken during the 1971 summer quarter and thereafter. When computing averages through 1971 spring quarter the policy contained in the 1970-71 Undergraduate Catalog is followed.

Transfer from One School or College to Another. Students with less than a C (2.0) grade point average who desire to change from one school or college to another will be admitted to the new academic unit only if approved by the dean of that unit.

Scholastic Probation and Suspension System

Students are expected to make satisfactory progress toward a degree, certificate or other approved objective. To ensure that students are making progress their records are checked against the regulations below.

SCHOLASTIC PROBATION

When a student's semester average and the cumulative University average fall below a C average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at the University provided the student does not accumulate more than six negative points. See Positive and Negative Grade Points below for an explanation of how positive and negative points are calculated. The student with more than six negative points will not be suspended so long as the term average is C (2.0) or above. A student will remain in the category of scholastic probation until the cumulative University average is C (2.0) or higher.

While on scholastic probation students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Students employed full time may not register for more than eight hours without approval of the head of their academic unit. Other limitations may be established by the aca-

demic unit within which the students are enrolled. Students enrolled in programs for the military or students enrolled in programs with a weekend or evening format are not restricted to the eight hour limit while on probation.

TRANSFER STUDENTS ADMITTED ON PROBATION

Transfer students admitted on scholastic probation will remain in that status until they have earned at least a C average at Southern Illinois University at Carbondale. If they earn below a C for any session while on scholastic probation, they will be placed on scholastic suspension.

SCHOLASTIC SUSPENSION

Students will be scholastically suspended from the University if they fail to meet the requirements of their conditional or probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Some academic units have scholastic requirements in addition to the overall University requirements listed here. Students must learn and comply with the University requirements as well as those requirements applying to individual schools and colleges.

POSITIVE AND NEGATIVE GRADE POINTS

Positive and negative grade points are assigned to grades above or below a C. There are two methods to figure points depending upon the information which is available.

Grade Slip Available. The grade slip printed at the end of each semester lists the hours used in calculating the average and the grade points earned. Since C has a value of two grade points on a 4 point scale, grade points equaling a C average are exactly twice the number of hours calculated. All grade points over that amount are positive grade points. All grade points under the amount are negative grade points.

For example:

<i>Hours Calculated</i>	<i>Grade Points</i>	<i>Grade Point Average</i>
60	120	(C) 2.0

Twice the hours calculated equals 120 grade points. This is a C (2.0) average. A student with 60 calculated hours and only 115 grade points would have five negative points (1.92 average). A student with 30 calculated hours and 55 grade points would have five negative points (1.83) average.

Grades and Hours of Credit Available. Whenever all grades and hours of credit are known and grade points have not been assigned as on the grade slip, a simple method is to assign positive and negative points as follows:

- A = 2 positive points per hour
- B = 1 positive point per hour
- C = 0
- D = 1 negative point per hour
- F = 2 negative points per hour

For example:

3 hours of A	× 2 positive points	= 6 positive points
3 hours of B	× 1 positive point	= 3 positive points
3 hours of C	× 0 points	= 0
2 hours of D	× 1 negative point	= 2 negative points
4 hours of F	× 2 negative points	= 8 negative points

The ten negative points are balanced by only nine positive points so the sample has one negative point.

Negative points are also used to easily determine exactly what grades must be earned to raise the average to C. For example, a student with eight negative points could raise the average to C by earning four hours of A grade or eight hours of B grade, assuming all other grades earned are C.

Credit

UNIT OF CREDIT

The University is on the early semester calendar. All references to hours of credit in this catalog are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of laboratory and activity courses, the stated additional time.

CLASS STANDING

The University requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 through 85; and a senior 86 or more.

ACADEMIC LOAD

The University considers 12 hours as the minimum number to constitute fulltime attendance. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled as full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Office of Student Work and Financial Assistance.

Academic load guidelines are as follows:

LOAD	REGULAR SEMESTER	8-WEEK SUMMER SESSION
Minimum load for full time	12	6
Average load	15-16	7-8
Maximum load without dean's approval	18	9
Maximum load ¹	21	11

¹This maximum may be exceeded by very special action of the respective academic dean, and rarely more than once in the student's degree program.

Students on scholastic probation may not take more than 14 hours without approval of the dean of their academic unit. Students employed full-time may not register for more than eight hours.

EXTENSION (OFF-CAMPUS) AND CORRESPONDENCE CREDIT

The University accepts credit earned through extension, off-campus, or correspondence programs toward the bachelor's degree. Not more than 30 semester hours may be taken in correspondence work.

Correspondence work is accepted when taken from institutions which are regionally accredited if the grade is of C quality or better. Southern Illinois University at Carbondale operates an individualized learning program similar to correspondence programs in which students may earn academic credit. More information about individualized learning is in Chapter XX under *Division of Continuing Education*.

The University offers off-campus courses whenever (1) it is apparent there is a

need and potential enrollment to justify scheduling, (2) it is possible to obtain a faculty member to instruct the class, and (3) adequate laboratory and library facilities are available.

Persons may enroll for off-campus work on an audit basis provided facilities are available. They must receive permission of the instructor to do so, and they must pay the same tuition as though they were registering for credit.

Further information may be obtained from the Division of Continuing Education.

CREDIT FOR MILITARY EXPERIENCE

Students who have served one year or more of active duty and who have received an honorable discharge may receive two hours of aerospace studies credit, two hours of physical education credit, and two hours of health education credit. Service of six months to one year may result in two hours of freshman aerospace studies or army military science credit; less than six months of active service allows no college credit. No credit is awarded for basic training.

Credit will be accepted for DANTES subject standardized courses within the limitations enforced for proficiency credit. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, *Guide to the Evaluation of Educational Experiences in the Armed Forces*, are followed.

In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records.

Graduation Procedures

The academic requirements for the various baccalaureate degrees are listed in Chapter 5. Presented here are the procedures students expecting to graduate must follow.

Graduation ceremonies are held each year at the end of the spring semester and the summer session. Degree candidates must apply for graduation with the Office of Admissions and Records by not later than the end of the first week of the semester in attendance before the expected graduation date. Candidates who plan to complete requirements at the end of the fall semester should apply for graduation during the first week of the fall semester. Although there is no ceremony at that time, degree candidates who complete requirements will have that fact indicated on their academic records. Application forms are available in the Office of Admissions and Records and may be obtained by mail by writing that office.

A graduation fee is established for all persons receiving degrees. The fee does not cover the rental fee for the cap and gown or the cost of the invitations. Both of these items are ordered through the University Book Store in the Student Center. Questions regarding the cap and gown and the invitations should be referred to the University Book Store.

In addition to completing the steps for application for graduation, students are responsible for determining that they are meeting all graduation requirements and have no outstanding financial obligation to the University. To assure that students are meeting the academic requirements, each academic unit provides a graduation check-up service through its academic advisement process, through which the satisfying of academic requirements can be verified. Even though the University does provide an academic check on graduating students, this is done primarily to be sure that it is graduating students who have met the requirements. The advising of individual students as to their progress is a service pro-

vided them and does not relieve students of their responsibility to make certain they are meeting the requirements. Students should check with their academic advisers as to the procedures they should follow in this matter as they approach graduation.

Graduating students who have outstanding financial obligations or delinquent accounts with the University will not receive either the diploma or transcripts until their accounts are paid.

Attendance at commencement is not compulsory. If you do not plan to attend, notification must be sent to the Office of Admissions and Records. This information is needed for seating arrangements and for mailing purposes.

The University has a Graduation Appeals Committee whose function it is to hear student's petitions to be permitted to graduate even though they have not satisfied all University graduation requirements. The committee hears only those cases involving University requirements for the associate or baccalaureate degree. Appeal relative to a major or academic unit requirement is through the appropriate administrative official. Ordinarily, the Graduation Appeals Committee will give consideration to an appeal only if there is tangible evidence that the matter at issue is of an unusual nature and that it has resulted due to conditions beyond control of the student. Appeal is initiated through the Office of Admissions and Records.

University Recognition of High Scholastic Achievement

Dean's List. At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list is established by each of the academic units. To be recognized as being on the dean's list, the student must have been in attendance full-time (12 semester hours or more) and must have earned the average for the semester which has been specified by the academic unit. If the student has met the criteria established, a notation will appear on the grade slip at the end of the semester. The dean's list is recognition for a particular semester. It does not take into consideration the student's complete record.

University Honors Program. The University Honors program is explained in Chapter 3 and Chapter 5. Those who successfully complete the University Honors Program receive recognition on the academic record and on the diploma at the time the degree is recorded.

Departmental Honors. Honors courses, individual honors work, and honors curricula, all designed to serve the student with high scholastic potential, are offered by departments in the College of Agriculture, the College of Human Resources, the College of Liberal Arts, and the College of Science. A departmental or academic unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the student's major. Some honors programs require a comprehensive examination at the end of the junior year and again at the end of the senior year. Grades may be deferred at the end of the first semester, but not from one school year to the next. Successful completion of a departmental or academic unit honors program is indicated on the academic record at the time the degree is recorded and on the diploma, e.g., departmental honors in economics.

Scholastic Honors Day. Each spring a Scholastic Honors Day convocation is held to honor students exhibiting high scholastic achievement. All students who have

maintained a cumulative grade point average of 3.50 or higher, and who have been full-time students during the entire academic year, are honored at this time. A 3.50 grade point average is required for all work taken at Southern Illinois University at Carbondale, and in the case of transfer students, the cumulative average must be at least 3.50 also. Each academic unit has its own convocation and each student is recognized individually on this day.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most of these organizations is noted at the Scholastic Honors Day ceremonies. The following are examples of some of these organizations: Alpha Epsilon Rho, Alpha Lambda Delta, Beta Alpha Psi, Beta Gamma Sigma, Golden Key Honor Society, Kappa Omicron Phi, Pi Mu Epsilon, Pi Omega Pi, Tau Beta Pi, the Liberal Arts and Sciences Honor Society, and the Honor Society of Phi Kappa Phi. Selection to membership in these organizations is not reflected on the academic record or diploma.

Honors/Departmental Honors Recognition at the Time of Graduation. Graduating students with scholastic averages of 3.90 or higher receive *summa cum laude*; those with 3.75-3.89 receive *magna cum laude*; and those with 3.50-3.74 receive *cum laude*. These averages apply to all work at the University, and in the case of transfer students, the averages also apply to the cumulative record. Whichever of the honors apply, plus graduation with departmental honors, are recorded on the student's academic record at the time the degree is recorded and on the diploma.

Program Flexibility for the Student

The University offers students a wide variety of programs on all higher educational levels. Chapter 5 lists specialized programs available on the associate and baccalaureate levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities provided students to either (1) earn credit through means other than the traditional classroom method or (2) develop programs better suited to individual student needs than are the already established programs described in Chapter 5. While greater flexibility is the goal, the University exercises appropriate supervision to ensure the flexibility is accompanied by educational soundness.

Credit by Means other than Classroom Attendance

Several methods are provided for students to earn credit by means other than the traditional classroom method. The methods currently available are described below.

HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences may apply for advanced placement and college credit through the Advanced Placement Program of the College Board. To receive credit, students must earn a grade of 3, 4, or 5.

Ordinarily, the maximum credit granted through advanced placement examinations is fifteen hours. It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. Credit granted at another accredited college or university under this plan is transferable to this University up to a maximum of fifteen hours. Students may appeal to academic deans to be granted more than fifteen hours.

Advanced classes which qualify for this purpose are offered in many high schools in specific subjects such as English composition, foreign languages, history, biology, computer science, chemistry, government, mathematics, and physics. A national examination is given in each subject with the examinations administered through the Educational Testing Service. The examinations are prepared by a national committee of high school and college teachers and are intended to measure the achievement of the student and determine at what point the student should begin college work in the subject.

The credit to be granted at Southern Illinois University at Carbondale is determined by the appropriate department. The credit will be validated after 12 hours credit in residence at SIUC. The following is a list of courses for which a student may currently receive credit:

1. Physics B or C: GEA 101 (three semester hours)
2. Chemistry: Chemistry 222 a,b (eight semester hours)
3. Biology: GEA 115 (three semester hours)
4. American History: GEB 301 and History 300 (six semester hours)
5. European History: History 200 (three semester hours)
6. English: Language and Composition: GED 101 (three semester hours) with a score of 3 or 4 or GED 120 (3 semester hours) with a score of 5. GED 120 will complete the General Education composition requirement.
Literature and Composition: GEC 122 (3 semester hours)
7. Foreign languages: credit to be determined in consultation with the chairperson of the Department of Foreign Languages and Literatures.
8. Mathematics: Calculus AB: Mathematics 150 (four semester hours)
Calculus BC: Mathematics 150 and 250 (eight semester hours).
9. Music: credit to be determined in consultation with the director of the School of Music.
10. Art: credit to be determined in consultation with the director of the School of Art.
11. American Government: GEB 114 (three semester hours).
12. Comparative Government and Politics: GEB 250 (three semester hours).
13. Computer Science: Computer Science A: Computer Science 202 (three semester hours)
Computer Science AB: Computer Science 220 (three semester hours).

Further information about the advanced placement program may be obtained from the appropriate regional office of the College Board or by writing The College Board, 888 Seventh Avenue, New York, New York 10019.

COLLEGE LEVEL EXAMINATION PROGRAM

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for General Education courses. With a score of 520 or higher on the appropriate examination, it is possible for students to receive six semester hours of credit in each of the three fields of natural sciences, social sciences and history, and humanities. These six hours will count for the core courses in each of Areas A, B, and C of General Education. Prior to the recording of CLEP credit on the student's transcript, the student must earn 12 hours of credit of C grade or above in residence at SIUC.

A score of 580 or higher is required to pass the mathematics test. With this score students may earn three hours of credit which will fulfill the General Education mathematics requirement.

For those who test through April, 1986. With a score of 650 or higher on the CLEP English examination, students are permitted to take GED 120, Freshman Honors Composition (three semester hours), instead of GED 101 and GED 102 (six semester hours). A student who scores 675 or above on the CLEP English examination will receive six semester hours credit (three semester hours GED 101 and three semester hours GED 102). A score of 650 to 674 entitles the student to receive (a) advanced placement in GED 120, Freshman Honors Composition, and (b) six semester hours credit upon the satisfactory completion of GED 120 with a grade of C or higher (three semester hours GED 120 and three semester hours GED 102).

For those who test from May, 1986 through May, 1989. With a score of 540 or higher on the CLEP English examination, students are permitted to take GED 120, Freshman Honors Composition, instead of GED 101 and GED 102. A student who scores 565 or above on the CLEP English examination will receive six semester hours credit. A score of 540 to 564 entitles the student to receive (a) advanced placement in GED 120, Freshman Honors Composition, and (b) six semester hours credit upon the satisfactory completion of GED 120 with a grade of C or higher (three semester hours of GED 120 and three semester hours of GED 102).

For those who test after May, 1989. Beginning June, 1989, the CLEP English Composition with Essay examination will be required. With a score of 565 or above on the CLEP English Composition with Essay examination, students will receive six semester hours of credit. A score of 540 to 564 entitles the student to receive (a) advanced placement in GED 120 and (b) six semester hours of credit upon successful completion of GED 120 with a grade of C or higher (three semester hours of GED 120 and three semester hours of GED 102).

If, prior to taking the CLEP examination, students have received a grade or audit in college level work in any discipline included in the CLEP exam or if they have enrolled in such a course, they shall be ineligible for credit. An exception to this rule is made in the case of students who enroll in the Early Admission program. Such students receive university credit for courses taken during the Early Admission experience and for the CLEP credit earned.

The science exam includes botany, microbiology, physiology, zoology, chemistry, physics, earth science, geography, and all General Education Area A courses. The social sciences and history exam includes western civilization, American history, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all General Education Area B courses. The humanities exam includes literature – poetry, fiction, drama, non-fiction, creative writing; films and performing arts; art – art appreciation, art history, architecture (past and present); music – classical, modern or jazz; humanities – all general humanities courses; all General Education Area C courses; philosophy – aesthetics, ethics, general survey. The mathematics test includes all college-level mathematics.

Students may be exempted from all General Education requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores; natural sciences, social sciences, and humanities, 520; English, 565; and mathematics, 580, and (2) complete all requirements of the University Honors Program. No retroactive extension of the CLEP privilege will be allowed.

For further information, students should consult with their academic adviser.

CLEP examinations should be taken at one of the national testing centers and the results sent to the local CLEP coordinator. The results are then forwarded to the Office of Admissions and Records for evaluation.

PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College Board, Advanced Placement Program, and the College Level Examination Program may be earned through proficiency examinations. Credit will be nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)
3. Upon passing proficiency examinations students are granted course credit and receive *Pass* grade. Their records will show the name of the course, the hours of credit granted, and a notation "credit granted by proficiency examination." Students who fail a proficiency examination receive a *Fail* grade. This results in no penalty to the students. They will not receive credit and their record will show nothing regarding the proficiency examination. However, the proficiency examination grade report form will be in the students' files for reference purposes.
4. Students may not take proficiency examinations for the same course more than one time. Neither may they take a proficiency examination in a course in which they have previously received a grade. Students who are registered for a course may not receive credit by proficiency examination for that course unless they withdraw from the course by the date during the semester which would result in no course entry appearing on the transcript. This date is the end of the third week for a regular semester course, and a correspondingly shorter period for summer session or short courses. Individual departments may require the proficiency examination to be completed in advance of this date.
5. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of *C* grade or above in residence at the University.

CREDIT FOR WORK EXPERIENCE

Southern Illinois University at Carbondale recognizes that there might well be a number of undergraduate programs for which work experience has a meaningful relationship. It, therefore, permits those undergraduate programs to grant credit for work experience that relates to students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major departments. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience.

Three-Year Baccalaureate Degree Program

It is possible for students to complete the regular four-year baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. Students who desire to follow the three-year program should make that fact known to their academic advisers at the earliest possible date so their eligibility can be determined. A combination of programs may be employed to accumulate these 30 hours as described above in the section on Credit by Means Other than Classroom Attendance.

University Honors Program

The University Honors Program is located administratively in the College of Liberal Arts. The University Honors Program is explained in Chapter 3 and Chapter 5.

University Studies Degree Program

The University Studies degree program permits students an additional option toward the baccalaureate degree. The program is intended for the student who is seeking an individualized education and who does not wish a major on the undergraduate level. Students may work toward either a Bachelor of Arts or Bachelor of Science degree in University Studies.

Students interested in the University Studies program should consult with the associate director for advisement and special programs, Undergraduate Academic Services for more information. See the description in Chapter 5.

Special Major Program

Individual students with academic needs not met in any of the existing majors within the University may arrange a program of courses more suited to their special requirements. See the description of the Special Major in Chapter 5.

Capstone Program

The Capstone Program has been developed for students who completed a two year vocational or technical program and then change their educational goals to include the pursuit of a baccalaureate degree. The program attempts to plan an individualized course of study for each student which will allow completion of a bachelor's degree with two additional years of credit beyond an associate degree. Chapter 4 includes information about provisions of the Capstone Program, admission requirements, and those academic units and majors which participate in the Capstone Program. Not all units and majors provide the Capstone option to this kind of applicant.

Internships in Washington

Eligible students from Southern Illinois University at Carbondale can combine a work and learning experience for credit through the Washington Center. Participants can intern in congressional offices, executive agencies, and with groups in many other areas such as the environment, consumer affairs, journalism, communications, legal affairs, labor relations, health policy, arts, education, science, public relations, urban affairs, and women's issues. Interns also attend seminars taught by representatives of major governmental agencies, interest groups, and corporations.

Prior arrangements are made through major departments to receive up to twelve semester hours credit for fall or spring semesters and up to six semester hours credit for a summer session.

The Washington Center internships at the University are coordinated through the office of the University Honors Program.

Opportunities for Study Abroad

1. The University sponsors a number of group programs including the following:

Year abroad in Austria: Two semesters are offered in Vienna at the Padagogische Akademie and other institutions. All courses are taught in German and require the student to have completed five semesters of college-level German or equivalent with a 3.0 grade point average. Students may earn 30 to 34 semester hours of undergraduate credit in German language, literature, and civilization and in certain other areas with prior approval. Additional information may be obtained from the Department of Foreign Languages and Literatures.

International Student Exchange Program: This exchange program is multilateral and involves one-year placements at 100 study sites worldwide. It is a one-for-one exchange plan under which students pay their normal tuition and fees, including room and board, and apply credit earned toward their degrees. There are study sites in Africa, Asia, Australia, the British Isles, Canada, Europe, and Latin America. Applicants must be mature, have a minimum grade point average of 3.25, and possess the appropriate foreign language skills. Acceptance into the program is considered an honor bestowed in lieu of a scholarship. Most forms of financial aid can be used for this program. Additional information may be obtained at International Programs and Services.

The Paris Center for Critical Studies: offers courses on contemporary French intellectual and cultural life including courses in contemporary French literary criticism, history and historiography, French contemporary philosophy, history of cinema and popular culture. Courses are offered at the center and through the Departments of Film, Theater, Communication, and French Literature of the University of Paris III. A minimum of two years of college-level French is required. Additional information may be obtained from the Department of Cinema and Photography.

Travel/Study Program: Travel/Study courses are offered during intersessions as well as during the summer months. Students must register four to six months prior to the start of the course and may earn graduate or undergraduate credit depending upon the nature of the course. Approximately ten offerings are available during each academic year, ranging in length from one week to two months. Courses are taught by full-time faculty of Southern Illinois University and most do not require a specialized foreign language background. Additional information may be obtained at International Programs and Services.

Partnership in Service-Learning: Service-Learning programs unite academic study and community service, so that the service makes the study immediately relevant, and the study relates to and supports the service. The Partnership offers programs in Jamaica, England, Ecuador, the Philippines, France and Liberia. Programs are offered for a summer, semester or academic year. Sophomore status or above is recommended. Most of the programs are taught in English except for Ecuador and France. The program is rigorous, demanding the ability to fulfill the commitment to the service and the academic requirements. Service-Learning programs are strongly recommended for students considering the Peace Corps or other long-term volunteer experiences after graduation.

2. The University sponsors a number of exchange programs with institutions of higher education in other countries. These include the following:

Australia: Curtin University of Technology, Perth (International Programs and Services).

China: Liaoning University, Shenyang; Northeast Normal University, Changchun.

France: University of Caen (Foreign Languages and Literatures).

Great Britain: Victoria University of Manchester (International Programs and Services); West Surrey College of Art and Design, Surrey (School of Art and Design).

Japan: Kansai University of Foreign Studies, Hirakata; Meiji University, Tokyo (International Programs and Services).

Switzerland: Dolmetscherschule, Zurich Interpreters School, Zurich (Foreign Languages and Literature).

West Bank: An-Najah National University, Nablus, West Bank via Israel (International Programs and Services).

West Germany: University of Hamburg, Hamburg (Foreign Languages and Literatures); University of Mainz, (English/Foreign Languages and Literatures), University of Regensburg, Regensburg (English).

Information concerning eligibility, requirements, program offerings, and application deadlines may be obtained from the International Programs and Services or the department listed.

3. The University provides the opportunity for a student to arrange travel and study abroad on an independent basis. Credit might be earned through (a) a department's independent study courses such as readings, individual research, practicum or related types of courses with prior departmental approval; or (b) a department or college's travel/study course where offered. Additional information is available from the study abroad coordinator, International Programs and Services.

4. Southern Illinois University at Carbondale may also grant credit for programs not sponsored by the University. A student may enroll in a study/travel program conducted by a regionally accredited United States institution and transfer the credit to this university. Credits earned in this manner will be evaluated as electives unless a department, program, or the Office of Admissions and Records approved the courses in advance to apply toward specific requirements. Additional information may be obtained from International Programs and Services.

A student may enroll in either a foreign institution or an independent location of a foreign institution. It is important that the student check with the Office of Admissions and Records before registering since many foreign institutions are not accredited. Graduate students should check with the Graduate School. Credits earned in this manner will count as electives only unless a department or program approves them to apply toward specific requirements.

Determination of Residency Status

The following is a direct quotation from the Board of Trustees' "Residency Status Policies", which govern the determination of residency status for admission and assessment of student tuition.

For the purpose of these regulations an *adult* is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. The term *the State* means the State of Illinois except in the following instances: (1) For the purposes of assessing undergraduate- and graduate-level student tuition, the Presidents, with the agreement of the Chancellor, may take the term "the State" to include the Kentucky Counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union. (2) For purposes of assessing undergraduate- and graduate-level student tuition for not more than six semester or nine quarter hours, the Presidents, with the agreement of the Chancellor, may take the term "the State" to include the State of Missouri. Neither exception may apply to the assessment of

tuition at the School of Dental Medicine, the School of Law, or the School of Medicine. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for resident status as defined in these regulations the nonresident status shall be assigned.

Note. On October 7, 1981, and effective with Spring Semester 1982, the above policy exceptions for Kentucky and Missouri residents were approved for graduate students only. Graduate students from Missouri who take more than six hours per term will be charged out-of-state tuition for *all* semester hours taken during the term. Effective Summer 1986, the above policy exception for Kentucky residents was extended to undergraduate students.

Residency Determination

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions at the time of application for admission. A student may be reclassified at any time by the University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a resident based on false or falsified documents, the reclassification to nonresident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student

An adult, to be considered a resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the beginning of any term for which the individual registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Minor Student

The residence of a minor shall be considered to be, and to change with and follow:

- a. That of his parents, if they are living together, or living parent, if one is dead; or
- b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of a court decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding registration at the University; or
- c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or
- d. That of the legally appointed guardian of the person; or

e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom the student has been supported for a period of at least three consecutive months immediately preceding registration at the University for any term, if the person's parents are dead or have abandoned said person and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian

No parent or legal or natural guardian will be considered a resident of the State unless said person (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent from the State with no intention of changing the legal residence to some other State or country, within the State.

Emancipated Minor

If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a Resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered "to actually reside in the State of Illinois" if a dwelling place has been maintained within the state uninterruptedly for a period of at least three consecutive months immediately preceding the beginning of any term registration at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Married Student

A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be classified as a resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate residency in compliance with the requirements applicable to students seeking Resident status.

Persons Without United States Citizenship

A person who is not a citizen of the United States of America who meets and complies with all of the other applicable requirements of these regulations may establish residence status unless the person holds a visa which on its face precludes an intent to reside in the United States.

NOTE: On May 12, 1988, the above policy exception for persons without United States citizenship was approved effective Summer Session 1988.

Armed Forces Personnel

A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a resident only if the

individual was a resident of the State at the time of entry into military service except as otherwise specified by Board policy.

A person who is separated from active military service will be considered a resident of Illinois immediately upon separation providing this person: (a) was a resident of the State at the time of enlistment in the military service, (b) became treated as a resident while in the military by attending school at SIUC while stationed within the State, or (c) has resided within the State for a period of three months after separation.

State and Federal Penitentiary

A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a resident for tuition assessment purposes as long as said person remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States

The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside of the United States shall be considered residents. However, this shall apply only when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside of the United States.

Dependents of University Employees

The spouses and dependent children of all staff members (academic, administrative, non-academic) on appointment with the University shall be considered as resident students for purposes of tuition assessment.

Contractual Agreements

The Presidents, with the approval of the Chancellor, may enter into agreements with other institutions in or out of state under the terms of which students at the other institutions are defined as residents of the State of Illinois.

Definition of Terminology

To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide residence is a domicile of an individual which is the true, fixed, and permanent home and place of habitation. It is the place to which, whenever absent, the individual has the intention of returning. Criteria to determine this intention include but are not limited to year-around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Procedure for Review of Residency Status or Tuition Assessment

A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition

is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If the student is dissatisfied with the ruling in response to the written claim made within said period, the student may appeal the ruling to the President or his designee by filing with that official within twenty days of the notice of the ruling a written request.

Issuance of Transcripts

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: A transcript is sent, issued, or released only upon a student's request or with the student's explicit permission, except that such permission is not required when University faculty and administrative personnel or other educational institutions request transcripts for official purposes. In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidential character of the transcript is protected. A transcript will be issued directly to a student upon request. The transcript will have the statement, Issued to the Student, stamped on its face. Transcripts will be sent without charge to recipients other than the student as requested, in writing, by the student. A transcript will not be sent, issued, or released if a student owes money to the University. For further information on the policy on the release of student information and access to student records see Chapter 7.

3 Academic Programs

Degrees Offered

Southern Illinois University at Carbondale grants the following degrees:

ASSOCIATE

Associate in Applied Science

BACCALAUREATE

Bachelor of Arts

Bachelor of Fine Arts

Bachelor of Music

Bachelor of Science

ADVANCED

Master of Accountancy

Master of Arts

Master of Business Administration

Master of Fine Arts

Master of Music

Master of Public Affairs

Master of Science

Master of Science in Education

Master of Social Work

Specialist Degree

Doctor of Business Administration

Doctor of Philosophy

Doctor of Rehabilitation

In addition to the above degrees, the University offers undergraduate courses in preprofessional areas.

The School of Law and the School of Medicine offer professional degrees. Information about the School of Law may be obtained by writing the dean, School of Law, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. Information about the School of Medicine may be obtained by writing the dean, Southern Illinois University School of Medicine, P.O. Box 19230, Springfield, Illinois 62794-9230.

For information concerning academic programs on the advanced degree level, refer to the Graduate Catalog or write the dean, Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Degree Requirements

Associate Degree

Each candidate for an associate degree must complete a minimum of 60 hours of credit in approved courses. Each student must maintain a C average for all work taken at Southern Illinois University at Carbondale. In addition to the technical

courses each program requires certain General Education courses to be taken. The degree-granting unit for the associate degree is the College of Technical Careers.

Baccalaureate Degree

Each candidate for a bachelor's degree must complete the requirements listed below.

Hour Requirements. Each student must have earned a minimum of 120 semester hours of credit, although some programs may require more. Of the 120 hours, at least 60 must be earned at a senior-level institution. All credit granted may be applied toward the 60-hour requirement unless the credit has specifically been designated as being from a community college. Credit for work experience, CLEP, military credit, and proficiency examination credit awarded by an accredited senior-level institution are counted toward the 60-hour requirement. GED 106 cannot be counted in the 120 hours required for graduation.

Residence Requirements. Each student must complete the residence requirement by taking the last year, which is defined as 30 semester hours, or by having three years of credit, which is defined as 90 semester hours at Southern Illinois University at Carbondale. Only credit for those courses for which the student has registered and for which a satisfactory grade has been recorded at Southern Illinois University at Carbondale may be applied toward the residence requirement hours. Students enrolled in programs offered for the military will have completed the residence requirement for the University upon completion of all courses required by the program.

Average Requirements. Each student must have a *C* average for all work taken at Southern Illinois University at Carbondale and a *C* average for all major work taken at the University.

The University has adopted a policy for students whose only graduation problem concerns the *C* average for all work taken at the University. Such students may ask that the average be computed by one of the following methods: (1) by excluding from calculation of the grade point average a maximum of ten semester hours of *D* or *F* grade earned outside the major which was taken prior to the last 60 semester hours of completed work at the University or, (2) by earning a grade point average of 2.10 or higher for the last 60 semester hours of work completed at the University. The student will be graduated if the average meets either of the two alternatives. It should be noted that the two alternatives are offered as a means of computing the grade point average for graduation only and may not be used for any other purpose.

Course Requirements. Each student must meet the University requirements and the requirements of the academic unit, the major, and the minor, if required. The General Education requirements which are explained later in this chapter total 46 semester hours of credit although there are methods available to reduce the number for certain students. The requirements of each academic unit are also listed in this chapter, while the requirements for the specific major and minor programs are explained in Chapter 5.

Second Bachelor's Degree

A student may earn a second bachelor's degree upon completion of a minimum of

30 hours, making a total of 150 hours minimum, provided the student fulfills the requirements of the department or school and college for the second bachelor's degree. Students pursuing a second baccalaureate degree must meet the General Education requirements of 46 semester hours if the department or school or college so requires. Students may, however, complete a second bachelor's degree under the Capstone Program if the department offers this option for the first baccalaureate degree. If a student's first bachelor's degree is from another university, 30 hours in residence is required to fulfill the requirements for the second bachelor's degree. If the first bachelor's degree was earned at the University, a minimum of 10 semester hours of the 30 required must be taken in residence at the University.

Preprofessional Programs

Preprofessional students may, subject to certain conditions, obtain a bachelor's degree after three years' work (90 semester hours) at Southern Illinois University at Carbondale and one or more year's work in a professional school. During their three years of residence at the University, they need to have completed all requirements other than elective hours for the bachelor's degree which they are seeking.

In some cases the completion of major requirements is possible by their taking certain courses at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, completion of at least one year of professional school with acceptable grades in an approved medical school, an approved dental school, an approved veterinary school, an approved law school, an accredited physical therapy school, a hospital plan approved by the University or an accredited school of osteopathy is required. In all cases, all University graduation requirements must be met. It is advisable for a student interested in this program to make the decision to seek a bachelor's degree before entering the professional school so that any questions may be clarified at an early date.

The 3/2 program of the College of Business and Administration is available to qualified transfer students and students majoring in areas other than business. The program permits a student to devote a part or all of the fourth year of study to fulfilling requirements for the Master of Business Administration degree. For details, contact the associate dean for graduate studies in the College of Business and Administration.

General Education Requirements

The University believes in a strong, well-rounded general education for all students which includes a common core of knowledge. It has, therefore, established General Education course requirements which serve as the general education requirements for all baccalaureate degrees. The University also recognizes that not all students have the same interests or goals so the General Education requirements provide for flexibility in making course selections to fulfill requirements. For the General Education requirements and descriptions of the General Education courses see Chapter 4 of this bulletin.

Capstone Program

The Capstone Program is for the transfer student who has earned an Associate in Applied Science degree or the equivalent certification and whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The Capstone Program's purpose is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired. For Capstone requirements, admissions policies and participating majors see Chapter 4 of this bulletin.

Academic Units and Programs Offered

College of Agriculture

JAMES A. TWEEDY, *Dean*

Departments: Agribusiness Economics; Agricultural Education and Mechanization; Animal Science, Food and Nutrition; Forestry; Plant and Soil Science

The College of Agriculture offers the following majors leading to the Bachelor of Science degree.

Agribusiness Economics

Agriculture, General

Animal Science

Food and Nutrition

Forestry

Plant and Soil Science

Students majoring in Agribusiness Economics may choose a Business Economics (32-hour) option or an Agricultural (40-hour) option. Students pursuing the General Agriculture major in the Agricultural Education and Mechanization Department may specialize in Agricultural Education, Agricultural Information, Agricultural Mechanization, or Agricultural Production. Production, Science and Pre-Veterinary, and Equine Science specializations are available in the Animal Science major. Food and Nutrition majors may choose Dietetics, Food and Nutrition Science, or Food and Lodging Systems Management (Hotel and Restaurant Management) specializations. In Forestry, one may choose a specialization in Forest Resources Management or in Outdoor Recreation Resource Management. Students in the Plant and Soil Science Department may take a concentration in crops, soils, or horticulture, with a Business, General, or Science specialization within that concentration. In addition, Landscape Horticulture and Environmental Studies specializations are available.

It is recommended that high school students who are planning to pursue one of the above majors include the following in their high school program: four units of English, two to four units of mathematics (algebra, geometry, advanced mathematics); two to three units of science (biology, chemistry, physics); and two to three units of social studies. For prospective agriculture majors or food and nutrition majors, high school classes in agriculture or home economics respectively are beneficial but are not specifically required.

For transfer students wishing to pursue a major in one of the agricultural, food and nutrition or forestry areas, courses taken prior to entering the University should include physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and intermediate or college algebra should be included. A potential transfer student who has already identified a major for the bachelor's degree may select with greater precision the courses which will be transferred by consulting the curriculum for that major in Chapter 5.

A student planning to take preprofessional courses in veterinary science should register in the College of Agriculture's four-year curriculum in Animal Science (Science and Pre-Veterinary specialization).

Qualified candidates for the Capstone Program are accepted into Agribusiness Economics, Animal Science, the General Agriculture major in Agricultural Edu-

cation and Mechanization, Food and Nutrition (Food and Lodging Systems Management specialization only), and Plant and Soil Science. The Capstone Program is described in Chapter 4.

Of the recent graduates of the College of Agriculture, about 40% have been employed in private industry, about 15% have entered farming or farm management and about 15% have been employed in each of: government (federal, state, county, and city); education or extension; graduate study or professional schooling.

Typical employment opportunities for Agribusiness Economics graduates include positions in credit and financial management, professional farm management, sales, and grain merchandising. A graduate from the Agricultural Education and Mechanization Department can be employed in the farm machinery or implement industry, as a high school agricultural educator, as a news editor, or in agricultural sales or service. Animal Science majors seeking employment can investigate positions in livestock management or sales, and governmental positions such as meat inspectors, as well as veterinary school. Food and Nutrition majors will find numerous opportunities as registered dietitians or in the hotel and restaurant management industry. The major employer of Forestry graduates is the federal or state government, but they also work as private forestry consultants, in urban forestry, or at sawmills. The Plant and Soil Science graduate with a concentration in agronomy will find opportunities in industry such as agricultural chemical sales, in production agriculture, or with a governmental agency such as the Soil Conservation Service. Horticulture graduates can seek employment in nursery management, in the florist or interior plant maintenance industry, or with landscape design firms.

College of Agriculture students come from both rural and urban homes. Approximately 30% are women. Students who elect any one of the six majors in the College of Agriculture are counseled, for the most part, by individual faculty advisors prior to registration. Most faculty offer an "open-door" policy and much personal attention to their advisees as well as to students enrolled in their classes.

The Agriculture Building houses the offices, classrooms, and laboratories for the agriculture and forestry programs. The Food and Nutrition program has offices, classrooms, and laboratories in Quigley Hall. Other research and teaching facilities include over one-third acre in greenhouses plus 2,000 acres of farm and timberland. A recent \$1.4 million building and renovation program has resulted in state-of-the-art livestock teaching and research facilities.

College of Business and Administration

THOMAS G. GUTTERIDGE, *Dean*

Departments: Finance, Management, Marketing
School: Accountancy

The College of Business and Administration aims to prepare students to perform successfully in business and other organizations such as government and other not-for-profit organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institu-

tions. The advanced curriculum and related programs provide students not only with a meaningful education but with a means of relating that education to organizations and commerce.

The College of Business and Administration offers the following majors leading to the Bachelor of Science degree.

Accounting	Finance
Business and Administration	Management
Business Economics	Marketing

Any student, whose personal and professional goals cannot be met by any of the majors listed above, may design a special major in accordance with the University guidelines which are fully described in Chapter 5 of this catalog.

While minors are not offered, academic advisers of the college will assist and counsel those students enrolled in other units of the University having an interest in electing business courses.

All programs offered in the College of Business and Administration are accredited by the American Assembly of Collegiate Schools of Business.

The College of Business Administration offices are located in Henry J. Rehn Hall, and the classes are conducted in various buildings throughout the campus.

Pre-College Preparation

High school and preparatory school students are urged to follow a program which includes at least three units of both English and mathematics, with a substantial portion of the remainder of their study programs devoted to such academic subject areas as humanities, the sciences, and social studies.

Transferred Credits in Business Courses

Subject to the University's policies regarding acceptance of transferred credits, the college accepts college-level credit earned in business and economics courses from accredited two- or four-year institutions of higher education and counts such credit toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore) level at the institution where completed, only those courses shown below will be treated as equivalencies to college- or departmental-required courses.

<i>Subject</i>	<i>Hours</i>
Principles of accounting	6
Cost accounting	3
Economic principles	6
Business economics statistics	3
(where college algebra is a prerequisite)	
Basic computer course ¹	3
Legal and social environment of business	3

¹Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.

Students also have the opportunity of validating additional coursework and nothing in the above statement abridges a student's right to satisfy graduation requirements by proficiency (or competency) examinations. Such examinations are treated as a student right by the college and are available for most courses.

Admission Policy

The current admission policy for the College of Business and Administration became effective the summer of 1990 and applies to all students who enroll at South-

ern Illinois University at Carbondale for the 1990 Summer Session and thereafter.

Freshmen. Beginning freshmen must rank in the top 50% of their high school graduating class and have earned an ACT composite score of 24 or above (25 or higher on the Enhanced ACT) to be eligible for admission to a major offered by the College of Business and Administration. New freshmen who do not meet these requirements but rank in the top half of their graduating class and achieve an ACT score of at least 16 (a composite score of 19 on the Enhanced ACT) will be admitted with a pre-business major classification.

Transfer Students. Transfer students who have completed fewer than 26 semester hours must meet the admission requirements of beginning freshmen as well as have earned a collegiate grade point average of 2.5 (4.0 scale). Those students who fulfilled beginning freshmen requirements for direct admission to a department will be granted such admission and those students who qualified for the pre-business classification will be admitted to pre-business.

Students who have completed 26 to 56 semester hours must have earned an overall grade point average of 2.5 or above. Those student who have completed the retention courses required by the College of Business and Administration will be admitted directly to the program in which they have requested admission. Applicants who have failed to complete the retention courses will be admitted with a pre-business classification. The retention courses to be completed are: GED 101, GEB 202, Mathematics 139 and 140, Economics 208 and 214, Accounting 220 and 230, and Computer Science 212 or Computer Information Processing 229.

Transfer students who have earned more than 56 hours of transfer credit and have a grade point average of 2.2 to 2.5 will have their applications reviewed by representatives from the College of Business and Administration to determine if they are admissible to the pre-business classification.

Reentering and Southern Illinois University at Carbondale Students. Students who are currently enrolled or were previously enrolled at the University in a major outside the College of Business and Administration may request admission to a Business program. These stuents will be considered for admission to the College of Business and Administration if they have earned an overall grade point average of 2.5 or higher. Students who have completed fewer than 26 semester hours of work will need to have earned the above average as well as satisfy the admission policies for beginning freshmen. Students who have a 2.5 or above average and have completed the retention courses can be admitted directly to the program they wish to enter. Students who have a 2.5 average but have not completed the retention courses can be admitted with a pre-business classification. Students with less than a 2.5 average will not be considered for entry into a degree program in the College of Business and Administration.

International Students. International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT and class rank are generally not submitted by international students, applicants do submit credentials which reflect their achievement in some subject areas similar to those of the United States students. Therefore, beginning international freshmen as well as transfer students will have their applications and documents reviewed in a manner similar to domestic students for admission to the College of Business and Administration. It will be necessary in many instances to grant international students admission with a pre-business classification as their credentials will be difficult to equate to standards required for native applicants.

Grade Point Average Calculation. In calculating a student's grade point average for admission purposes for continuing, new, and reentering students, the admission office will follow the SIUC grading policy and procedures for all collegiate (not remedial) work attempted at SIUC and other collegiate institutions.

Pre-business Classification. Beginning freshmen and transfer students admitted to the University with a pre-business classification may request admission to a College of Business and Administration degree program when all the following conditions are satisfied:

1. They have earned an overall average of 2.5;
2. They have completed at least forty-two semester hours;
3. They have completed six of the College of Business and Administration's nine retention courses with an average of 2.0 in those courses.

To pursue a specific degree program in the College of Business and Administration students must submit the appropriate application directly to the COBA Student Affairs Office. Students applying for spring must apply by October 1 of the preceding year, for summer by March 1 preceding the summer, and for fall by March 1 preceding the fall. Students who are classified as pre-business majors cannot register for 300- and 400-level courses offered by any of the business departments.

Because interest in business classes continues to be exceedingly high, it may be necessary to close admission to selected business majors without advance notice.

Class Availability for Non-Business Students

Non-business students may register for business courses, within space limitation, *only* if the course is required by their major as confirmed by the College of Business and Administration. Otherwise, students must have a 2.20 cumulative grade point average at Southern Illinois University at Carbondale and obtain consent of the department which offers the course. Students who have not been admitted to the College of Business and Administration are limited to a total of twenty-four semester hours of business courses.

Retention Policy

Students admitted to the College in the Summer 1990 term or later will be required to fulfill University scholastic standards (e.g. maintain a 2.0 grade point average for all work taken at this University.)

Students who were admitted to the College prior to Summer 1990 must meet the following requirements:

In order to continue enrollment in the College of Business and Administration, students must maintain a 2.2 Southern Illinois University at Carbondale cumulative grade point average. Students must also complete the following nine courses with an overall *C* average, before attaining junior status (56 semester hours). It is also necessary for students to have completed with a grade of *C* or better seven of these nine courses. The nine retention courses or the equivalencies are GED 101; GEB 202; Mathematics 139 and 140; Economics 208 and 214; Accounting 220 and 230; and Computer Science 212 or Computer Information Processing 229. Students who have completed 42 semester hours or more without completing at least six of the prescribed nine courses will be subject to termination from the college.

Collegiate Warning and Dismissal Policy

Collegiate Warning. Students who do not achieve an accumulative 2.20 Southern Illinois University at Carbondale grade point average in any semester or who fail

to meet the retention course requirements as described above are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.20 Southern Illinois University at Carbondale grade point average in a subsequent semester will be placed on a status of collegiate dismissal.

A student who has been placed on collegiate dismissal will be transferred to Undergraduate Academic Services or may seek transfer to another University program if the student has an overall Southern Illinois University at Carbondale grade point average of 2.0. Students who are placed on collegiate dismissal and have less than an overall 2.0 University grade point average for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

First Collegiate Dismissal. The student on collegiate dismissal may not be readmitted to the college until the student has interrupted education in the college for a minimum of two semesters and shows evidence that the program of study can be successfully completed. For this purpose, a summer session will be considered a semester.

After the two term interruption, the student may apply to the college scholastic committee for readmission. In this petition, the student should supply written evidence to include: (1) any extraordinary circumstances that contributed to the collegiate dismissal; (2) why the student thinks there is a reasonable chance to succeed in studies; and (3) what the student was doing during the interruption period that will contribute to further success. Insufficient documentation to justify the request will result in denial of the request for that semester.

Business students on collegiate dismissal who are eligible to continue at the University may be readmitted in certain cases upon approval of the scholastic committee without the two semester interruption.

Second and Subsequent Dismissals. A student on collegiate dismissal for a second or subsequent time may apply for readmission after an interval of no less than two calendar years. There are no exceptions. Students requesting readmission who have been on dismissal two or more times must be referred to the scholastic committee as described above.

Admission to Business and Administration Classes. Students on collegiate dismissal who are eligible to continue at Southern Illinois University at Carbondale can take only the following business courses while on collegiate dismissal: ACCT 220, 230; ECON 208, 214. Students are not restricted from taking other required non-business courses.

Grade Point Average Requirement

Graduation from the College of Business and Administration requires achievement of a 2.00 grade point average in all business-prefix (ACCT, ECON, FIN, MGT, MKTG) courses offered at Southern Illinois University at Carbondale. Accounting majors are subject to the additional requirement of achieving a grade of C or better in accounting-prefix (ACCT) courses completed at the University. Marketing majors must earn a C grade in all marketing courses that are taken to satisfy major requirements. Business courses may only be taken three times. This is, if a course is failed, a student has two additional attempts to pass the course. Students may not repeat courses in which they have earned a grade of C or better.

Pass/Fail Policy of the College

Business majors may not register on a Pass/Fail basis for courses used to satisfy requirements in the College of Business and Administration unless the course is designated Mandatory Pass/Fail.

Course Sequencing

It is of the utmost importance that required courses be sequenced properly. Sequencing guides are available from the college's academic advisement center and are published in the College of Business and Administration's *Student Information Manual*. Courses on the 300 to 400 levels are reserved for juniors and seniors.

Forty Percent Rule

At least 40% of the coursework of all business majors must be devoted to courses offered outside the College of Business and Administration; at least 40%, to courses offered by the College of Business and Administration.

Multiple Majors in Business

Business majors may choose to complete two or more of the six majors offered by the college. While all requirements of each major must be satisfied, this can usually be accomplished through judicious use of electives without extending anticipated graduation dates beyond one semester. All majors will be noted on the diploma issued on completion of the Bachelor of Science degree.

General Education Courses Prescribed for Business Majors

Students in the College of Business and Administration must complete the General Education requirements of the University. The following courses are required and will count toward partial fulfillment of General Education requirements:

- GEB 202
- Economics 214 to substitute for GEB 211
- GED 101
- Mathematics 139 to substitute for GED 107
- GED 152 or 153

Professional Business Core

The professional business core, required of all College of Business and Administration students, is comprised of the following courses:

Courses	Semester Hours
Accounting 220, 230	6
Management 202, 304, 318, 481	12
Computer Science 212/Computer Information Processing 229 ²	3
Economics 208, 214 ¹ , 215.....	(3) ¹ + 6
Finance 270 ³ , 330	6
Marketing 304.....	3
Mathematics 139 ¹ and 140 ⁴	(3) ¹ + 4
Total	40

¹See General Education courses prescribed for business majors.
²Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.
³The combination of Finance 280 and 380 may be substituted for 270.
⁴Mathematics 150 may be substituted for 140.

College of Communications and Fine Arts

MARVIN D. KLEINAU, *Acting Dean*
Departments: Cinema and Photography; Communication Disorders and Sciences;

Radio-Television; Speech Communication; Theater
Schools: Art and Design; Journalism; Music

The College of Communications and Fine Arts offers the Bachelor of Arts degree in the following majors or specializations within majors:

Art (some specializations)	Music (some specializations)
Cinema and Photography	Radio-Television
Design	Theater

The Bachelor of Science degree is awarded in other majors or specializations within majors:

Communication Disorders and Sciences	Journalism
	Speech Communication

The Bachelor of Fine Arts degree is awarded for some specializations in the School of Art and Design.

The Bachelor of Music degree is awarded for some specializations in the School of Music.

Additional information about the majors offered in the College of Communications and Fine Arts is offered elsewhere in this bulletin. Students who are considering enrollment in a major should read the section on curriculum. Admission to the University is handled through the Office of Admissions and Records, but those students who desire more specific information about a major should make an appointment with an academic adviser of that department or school. Each department or school of the college has one or more individuals who will advise prospective students about major requirements, curriculum, activities, careers, and opportunities. Transfer students may also discuss transfer credit and placement in courses at Southern Illinois University at Carbondale.

A student with special personal and professional goals which cannot be met by one of the traditional majors is encouraged to consider the resources available within the college and university and design a special major. Requirements and guidelines are listed elsewhere under *Special Major*.

Faculty of the college are engaged in research/creative activities concerning communications and the arts. They also provide consulting service and other community services to schools, newspapers, radio and television stations, museums, arts centers, businesses, and governments. They hold professional memberships and serve as officers in various local, state, national, and international organizations in the communications media and in the arts. A number of special events are presented each year, including lectures by noted artists, music performances, theater productions, art and photography exhibits, and film showings.

The Broadcasting Service and the University Museum are also part of the college. The Broadcasting Service operates WSIU (FM), a public radio station, and WSIU (TV), channel 8, a public television station, both located in Carbondale. It also operates a second public television station, WUSI (TV), channel 16, at Olney. The University Museum serves the college and the campus community and surrounding area through its active exhibit program and its cooperative ventures with other academic units.

Administrative offices of the college are located in the Communications Building, which includes the McLeod Theater and Calipre Stage along with broadcasting facilities, film production facilities, and office of the *Daily Egyptian*.

College of Education

DONALD L. BEGGS, *Dean*

Departments: Curriculum and Instruction; Educational Administration and

Higher Education; Educational Psychology; Health Education; Physical Education; Recreation; Rehabilitation; Special Education; Vocational Education Studies

The College of Education offers the following programs¹ leading to the Bachelor of Science degree:

Art	Language Arts (English and Reading)
Biological Sciences	Mathematics
Chemistry	Music
Clothing and Textiles	Physical Education
Communication Disorders and Sciences	Physics
Early Childhood	Political Science
Elementary Education	Recreation
English	Secondary Education ²
French	Social Studies
Geography	Spanish
German	Special Education
Health Education	Speech Communication
History	Vocational Education Studies
	Zoology

¹In addition to programs offered almost entirely within the College of Education, certain programs are offered in cooperation with the College of Liberal Arts (e.g., English), or with the College of Communications and Fine Arts (e.g., art, music), College of Agriculture and the College of Science (e.g., biological sciences, chemistry).

²This is not an academic major. Persons planning to teach in secondary schools should refer to Curriculum and Instruction program for a listing of academic majors and minors.

The College of Education is a multipurpose college preparing students as human service professionals as well as for the teaching profession. These programs include preparation in Apparel Design, Clothing Retailing, Child and Family Services, Athletic Training, Exercise Science and Physical Fitness, Recreation, Community Health, and Education, Training and Development.

Preparation of teachers at all levels and in all areas of instruction in the public schools from preschool education through high school is the special function of the College of Education. In its graduate offerings the efforts of the College of Education include professional work for prospective college teachers and administrators and several specializations in elementary and secondary school administration and supervision.

For most undergraduate students preparing to teach in high schools, the subject-matter courses will be taken in the other colleges and schools of the University, and the professional preparation for teaching, including student teaching, will be taken in the College of Education. Graduates of the College of Education receive the Bachelor of Science degree.

Students who wish to become principals or supervisors in the public schools take graduate work in the Department of Educational Administration and Higher Education. The department's major emphasis is on the graduate work, but it also participates in providing background for elementary and high school teachers. Likewise, students wishing to pursue a career in teaching or administration in colleges and universities take graduate work in the department. The department does not offer an undergraduate major in higher education, but it provides courses for undergraduate credit providing a broad background in higher education for elementary and high school teachers.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University.

Teacher Education Program

Southern Illinois University at Carbondale is fully accredited by the National

Council for Accreditation of Teacher Education (NCATE) and by the State Teacher Certification Board, Springfield. The teacher education program is an all-university function administered by the dean of the College of Education. An advisory committee composed of faculty, area teachers, and administrators serves in a recommending capacity to the dean.

Teacher education programs, approved by the State Teacher Certification Board, are offered in elementary education, early childhood education, special education, secondary education majors and minors, and in majors which lead to the special certificate to teach K-12. The special education major offers specializations in education of the behaviorally disordered, of the mentally retarded, and of the learning disabled.

Only those students who complete an approved teacher education program are recommended for certification and may receive a teaching certificate through the entitlement process. Further information and procedures for receiving the certificate are explained below under Certification.

ADMISSION POLICY

The College of Education admission policy shall be the same as that of the University. All qualified new students are admitted to the College of Education with a specific departmental major classification or as an unclassified student. The same policy applies for reentering students and for students enrolled in Teacher Education Program majors in other colleges in the University.

RETENTION POLICY FOR TEACHER EDUCATION PROGRAM

This retention policy became effective October 15, 1987, and applies to all students enrolled at Southern Illinois University at Carbondale after October, 1987.

Advancement to the teacher education certification program may occur when the student has completed a minimum of 30 semester hours. A student is eligible to make formal application for unconditional admission to the program when the following criteria have been met:

1. A minimum of 30 semester hours of completed work;
2. An overall grade point average of at least 2.50 (4.0 scale);
3. Completion of GED 101 and GED 102, and one additional English course (GEC or Department of English) with a grade of C or better;
4. Three letters of recommendation from college or university faculty;
5. An ACT or SAT score at the 60th percentile.

Students who meet the first four criteria but do not meet the test score criteria (an ACT or SAT score at the 60th percentile) will be considered for conditional admission if there are places available in the program. Conditional admission will be considered five times yearly: 1) August 15; 2) November 1; 3) January 10; 4) April 1; and 5) July 1. Conditional admission will be considered on the basis of completion with a minimum grade of C since entering ninth grade including work taken in college of 1) four years of English and communication skills. Each three semester hour college composition or writing course equates to one year of high school English. At least three of the four years must be English; 2) two years of mathematics sufficient to include the course content of algebra I; 3) two years of science. Courses from either the physical or biological sciences will be accepted toward this requirement; 4) two years of social studies.

Applications must be submitted in person and must be accompanied by verification that all prerequisites have been met. Students are responsible for submitting high school transcripts and test scores to the College of Education Student Services at the time of application. Applications received through the mail will not be considered. Application forms, as well as information about the teacher education program, are available from the College of Education Student Services in Wham

Education Building, room 135. Students are encouraged to investigate the feasibility of applying for a particular teaching field early in their undergraduate careers by contacting their adviser or the department in which they wish to specialize. Transfer students are encouraged to contact the College of Education Student Services at least one semester prior to enrolling at Southern Illinois University at Carbondale.

If a student's application is approved after being reviewed by the chief academic adviser in the College of Education, the student is issued a membership card which entitles the student to begin work in the basic professional education courses which are prerequisite to the professional semester of student teaching. At the end of the first semester of membership, the department offering the student's major is requested to submit a recommendation as to whether or not the student should be retained in the program. Criteria for this recommendation are available from the department or the student's adviser. Failure to obtain approval prohibits the student from continuing with the professional education courses and could lead to suspension from the program. In order to remain in the program and complete the requirements for graduation and teacher certification, the student must attain a 2.50 grade point average in the major and receive departmental approval. Both of these requirements must be met before final clearance can be given for a student teaching assignment.

Students who are not able to meet the criteria of the teacher education program or their major department will be counseled about alternative programs.

Collegiate Warning and Dismissal in Teacher Education Program. Students who do not achieve an accumulative 2.25 grade point average in their major in any semester are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.25 grade point average in courses required by their major in a subsequent semester will be placed in a status of collegiate dismissal. Students registered in other colleges who are in the Teacher Education Program who do not meet this requirement will be dismissed from the Teacher Education Program. A student who has been placed on collegiate dismissal may seek transfer to another program if the student has an overall grade point average at Southern Illinois University at Carbondale of 2.00 and is in good academic standing. Students who are placed on collegiate dismissal and have less than an overall 2.00 for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

DEGREE REQUIREMENTS

In addition to general education and major requirements, each degree candidate in a teacher education program must complete the course requirements listed below:

1. Four semester hours in health and physical education by taking GEE 201 and two hours of GEE 100-106 or 114. These courses should be selected as a part of the general education requirements.
2. A course in American history and government (GEB 114 and 301 recommended.)
3. The United States and State of Illinois constitution examinations requirement. This requirement for continuing certification in Illinois may be met by taking GEB 114 or 301, or History 300; by taking a course in American history or political science other than GEB 114 or 301 or History 300 and passing the constitution test administered by the University; or by presenting written notification from another institution that a course in American history or government has been passed and that the tests have been passed on the constitutions of the United States and the State of Illinois.
4. GEB 202 as a prerequisite for Education 314a,b in the professional education

- sequence. GEB 202 should be selected as a part of the general education requirements.
- GED 101 and GED 102, and one additional English course (GEC or English department) with a grade of C or better. This requirement is a prerequisite to admission to the Teacher Education Program.
 - GED 152 or 153 is required for state certification.
 - The professional education sequence listed below. Each of the courses which are part of the program prior to the professional semester must be completed with a grade C or better as a prerequisite to admission to the professional semester. Students must receive a grade of C or better in Education 401 to receive the institutional recommendation for certification.

<i>Professional Education Sequence</i>	25
Decision Component	
Education 310	1
Basic Professional Block ¹	
Education 311	2
Education 314a,b.....	3
Education 315	3
Education 316	2
Education 317	2
Professional Semester	
Education 401	12
8. Illinois State Teacher Certification Board general education course distributions in: science, mathematics, social science, humanities, health, and physical education. At least one three semester hour course must be taken in non-western or third world cultures in either the humanities or social sciences. Students having questions concerning whether their program meets certification board requirements should discuss their concerns with their academic advisers.	

¹Includes Education 312 and 400 for Special Education majors.

Certification

A student who is nearing completion of the teacher education program (usually during the last semester) can obtain the forms to make application for entitlement to certification for the State of Illinois from the College of Education Student Services, Wham Education Building, Room 135. Upon completion of the application forms by the student, the certification staff will process the forms. When the student's program, including graduation clearance, is completed, the office will mail the completed forms to the student's permanent address for use in applying for certification through the student's future educational service region superintendent.

Applicants for certification must register and pass the Illinois Certification Test for Basic Skills and Illinois Certification Area prior to being granted a certificate. Students are advised to take the Basic Skills Test in their junior year. The Illinois Certification Area Test should be taken prior to graduation.

The State of Illinois issues through the entitlement process the Standard Elementary Certificate, Standard High School Certificate, Standard Special Certificate, or Early Childhood-Preschool Certificate to students who graduate from an approved teacher education program at the University.

Standard Elementary Certificate. Students planning to teach on the elementary level in the public schools of Illinois register in the College of Education. Requirements for entitlement to the State of Illinois standard elementary certificate may be through the completion of the early childhood (K-3) education program or the

elementary education (K-9) program. For further information concerning these programs, see the sections of this catalog titled curriculum and instruction, and professional education experiences in Chapter 5.

Standard High School Certificate. Requirements for entitlement to the State of Illinois standard high school certificate and for entitlement to the standard special certificate may be met as explained in the section of this catalog titled curriculum and instruction in Chapter 5. A listing of majors, minors, and other programs approved for certification entitlement purposes at Southern Illinois University at Carbondale is presented there. It is possible for a student to be registered in one of the colleges or schools other than the College of Education and to meet the state requirements for the standard high school certificate or the standard special certificate by using as electives certain prescribed professional education requirements in the College of Education.

Standard Special Certificate. Teaching all grades, kindergarten through grade 12, requires the standard special certificate. As noted above, requirements for entitlement to the standard special certificate may be met in the manner outlined in the section of this catalog titled curriculum and instruction in Chapter 5. Teaching fields for which the standard special certificate is issued include physical education, special education, music, art, and communication disorders and sciences.

Early Childhood Certificate. Students planning to teach at the preschool-primary level in public schools or other settings in Illinois register in the College of Education. The early childhood kindergarten and primary age children program was specifically designed to prepare future teachers of pre-kindergarten children. For further information concerning the program, see the section of the catalog titled curriculum and instruction in Chapter 5.

College of Engineering and Technology

JUH W. CHEN, *Dean*

Departments: Civil Engineering and Mechanics; Electrical Engineering; Mechanical Engineering and Energy Processes; Mining Engineering; Technology

The College of Engineering and Technology offers the following majors leading to the Bachelor of Science degree:

- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Mining Engineering

Engineering Technology with specializations in civil engineering technology, electrical engineering technology, and mechanical engineering technology.

Industrial Technology with specializations in manufacturing technology and mining technology (Admission to the mining technology program is temporarily closed.)

All of the engineering programs are fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The engineering technology program with specializations in civil, electrical and mechanical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology program is accredited by the National Association of Industrial Technology.

Specific requirements are listed for the various majors in Chapter 5. Six academic programs: civil engineering, electrical engineering, mechanical engineering, mining engineering, engineering technology and industrial technology serve students who have different career goals.

Civil Engineering. The civil engineering program leading to the Bachelor of Science degree is designed to provide the student with the broad educational background essential to modern civil engineering practice. Technical electives in the senior year permit greater breadth and additional depth in such areas as structural and geotechnical engineering, hydraulic engineering, environmental engineering and applied mechanics.

Electrical Engineering. The Department of Electrical Engineering offers courses in the major areas of electrical and computer engineering. Students who choose the electrical engineering major prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electrical power, computer, and microelectronic companies. Flexibility in this major allows students to choose among courses in applications and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics, and power systems.

Mechanical Engineering. Mechanical engineering is one of the most broadly based of the traditional engineering disciplines. Mechanical engineers design and develop a wide variety of systems for conversion, transmission, and utilization of energy; for material processing and handling and packaging; for transportation; for environmental control; and for many other purposes for the benefit of humanity. Therefore the curriculum contains a broad foundation in mathematics and the basic and engineering sciences, followed by more concentrated study in energy and machine systems. Mechanical engineers may be found in a variety of assignments including planning and design, research and development, supervision of installation and operation of complex systems, and management.

Mining Engineering. Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral coal processing, material handling systems, mineral economics, mine health and safety engineering, operations research, and computer-aided mine design. Facilities include modern, well equipped rock mechanics, mine ventilation and mineral processing laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level.

Engineering Technology. Engineering technology is that part of the technological field in which engineering knowledge and scientific methods are combined with hands on technical skills to support engineering activities. It lies in the occupational spectrum between that of the technician and the engineer with specific responsibilities depending upon the nature of the training and requirements of the job but lying more closely to engineering. Graduates are prepared to deal with

technical and production problems, and to apply their knowledge to such activities as development, design, construction, maintenance and operational problems.

Industrial Technology. Industrial technology is a management-oriented technical profession that is built upon a sound knowledge and understanding of materials, processes, technical management, and human relations; and a proficiency level in the physical sciences, mathematics, and technical skills to permit the graduate to capably resolve technical-managerial and production problems. Graduates of this program are prepared for positions in processes, safety, quality control, supervision, robotics, methods analysis, and computer-aided manufacturing.

Admission Policy

The following requirements apply to students seeking admission to civil engineering, electrical engineering, mechanical engineering, and mining engineering. They do not apply to students applying for admission to engineering technology or industrial technology.

FRESHMEN

Beginning freshmen must rank in the top quarter of their high school graduating class and have an ACT standard composite score of 19 to 22 or rank in the top half of their graduating class and have an ACT composite score of 23 or higher. In addition, students must have completed prior to high school graduation the following courses before they will be allowed to enroll in an engineering major: three years of English (a fourth year is recommended); three and one-half years of mathematics in which there are two years of algebra, one year of geometry, and one-half year of trigonometry and two years of science of which it is recommended there is one year of chemistry and one year of physics.

Students who do not meet these requirements but do meet the regular University admission requirements will be admitted with a pre-engineering classification with the opportunity to transfer to an engineering program once they have satisfied the conditions stated in the section titled Pre-Engineering Classification. These students may alternatively be admitted directly to one of the technology programs in the college but cannot change their major to engineering until they have satisfied the requirements for transfer students as stated below.

TRANSFER STUDENTS

Transfer students including students registered at Southern Illinois University at Carbondale with other majors who have completed fewer than twenty-six semester (thirty-nine quarter) hours must have an overall C average and meet the admission requirements of beginning freshmen. Students who have completed twenty-six semester hours or more and have an overall average of 2.40 will also be admitted into an engineering program. (NOTE: for a period of time, it may be necessary for the Department of Electrical Engineering to require an average higher than 2.40 before approving transfer and pre-engineering students to enter this program.)

Students who have completed twenty-six to sixty semester hours and have a grade point average between 2.0 and 2.39 will be admitted with a pre-engineering classification. These students should submit their high school records and ACT scores to the Office of Admissions and Records at the time they apply for admission. Students who have completed twenty-six to sixty semester hours and have a grade point average between 2.0 and 2.39 may be admitted in special cases to an engineering program by one of the engineering departments. Such a student, however, may not transfer to another engineering department without consent of that department.

Students who have earned more than sixty semester hours and have a cumulative grade point average between 2.0 and 2.39 may be referred to the department for approval or they may be admitted to a pre-engineering classification. If admitted to pre-engineering the student must complete 26 semester hours of which 12 must be in engineering related courses with at least a 2.40 grade point average. After completion of 26 hours, if the 2.40 average is not reached, the student is subject to collegiate dismissal.

A transfer student's grade point average is determined by computing all earned grades including repeated courses.

PRE-ENGINEERING CLASSIFICATION

Students who have been placed in a pre-engineering classification because they have not completed the high school courses required for direct admission to an engineering program will be transferred to an engineering program when the high school prerequisite courses have been satisfied by taking courses at the University.

Students admitted with a pre-engineering classification may request transfer to an engineering program after they have earned at least twenty-six semester hours at the University with a grade point average of 2.40 or greater. (NOTE: For a period of time, it may be necessary for the Department of Electrical Engineering to require an average higher than 2.40 before approving transfer and pre-engineering students to enter this program.) In addition, at least twelve of the twenty-six hours must have been earned in engineering, mathematics, and prerequisite science courses which are required for graduation from an engineering program at the University.

Students in the pre-engineering classification who have completed twenty-six to sixty semester hours and have a 2.0 through 2.39 grade point average may, in special cases, be admitted to an engineering program in one of the engineering departments. Such students may not transfer to another engineering department without approval of that department chairperson.

Pre-engineering students who have earned less than a 2.40 average after completing sixty or more semester hours and who cannot be admitted by a department as a special case will be transferred to Undergraduate Academic Services or may seek entrance to another collegiate unit provided their overall Southern Illinois University at Carbondale grade point average is 2.0. Students transferred from the pre-engineering classification may seek readmission to the College of Engineering and Technology only after they have attained an overall average of 2.40. (Note: For a period of time, it may be necessary for the Department of Electrical Engineering to require an average higher than 2.4 before approving transfer and pre-engineering students to enter this program.)

Students who are classified as pre-engineering majors cannot register for 300 and 400 level courses offered by any of the engineering departments.

SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE STUDENTS

Students currently enrolled at the University who have not been admitted to an engineering major must meet the requirements described above to transfer into one of the engineering programs.

INTERNATIONAL STUDENTS

International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT scores and class rank are not generally submitted by international students, students do submit credentials which reflect their achievements in subject areas such as English, mathematics, and science. Therefore, beginning freshmen and transfer students with

less than twenty-six semester hours will be required to submit records which reflect above average achievements in these disciplines in order to be admitted to an engineering program. Transfer students who have earned twenty-six semester hours or more of transfer credit will be required to have a 2.40 or comparable grade point average.

Students who meet minimum University admission requirements but do not meet those requirements for entrance to an engineering program will be granted admission to the college with a pre-engineering classification and be advised as to an appropriate program during the first year. These students must satisfy the requirements previously described for native students in order to transfer to an engineering major.

Because interest in engineering classes continues to be exceedingly high, it may be necessary to close admission to selected engineering majors without advance notice.

ENGINEERING TECHNOLOGY AND INDUSTRIAL TECHNOLOGY

Admission policies to the engineering technology and industrial technology majors have not changed. However, it is recommended that all students considering entrance to these programs should have completed four years of English, three and one-half years of mathematics in which there are two years of algebra, one year of geometry, and one-half year of trigonometry, and two years of science which includes one year of chemistry and one year of physics.

Collegiate Warning and Dismissal Policy

Students in the College of Engineering and Technology must meet the requirements of the University retention policy as well as those of the College of Engineering and Technology. They are also required to maintain a 2.0 grade point average in their major at all times. Students who do not achieve an accumulative 2.0 grade point average in their major in any semester are subject to collegiate warning. Students who are on Collegiate warning and do not earn a 2.0 grade point average in major courses may continue enrollment in the College of Engineering and Technology provided the student does not accumulate more than 6 negative points in their major. (Contact the Engineering and Technology Advisement Office for explanation of how positive and negative points are calculated.) The student with more than six negative points in the major will not be collegiately dismissed so long as the major term average is 2.0 or above. A student will remain on collegiate warning until the cumulative major grade point average is 2.0 or higher.

The courses used to determine the major grade point average for engineering students are courses offered as engineering (ENGR except ENGR 111a and 111b), civil engineering (CE), engineering mechanics (EM), electrical engineering (EE), mechanical engineering (ME), mining engineering (MNGE), and any courses previously completed as ESSE, EMM, and TEE. The courses used to determine the major grade point average for engineering technology students are courses offered as engineering technology (ET). The courses used to determine the major grade point average for industrial technology students are courses offered as industrial technology (IT).

Students who are on collegiate warning and do not earn a 2.0 grade point average in courses in their major in a subsequent semester and have more than 6 negative points in their major will be placed on a status of collegiate dismissal. A student who has been placed on collegiate dismissal will be transferred to Undergraduate Academic Services or may seek transfer to another University program if the student has an overall Southern Illinois University at Carbondale grade point average of 2.0. Students who are placed on collegiate dismissal and have

less than an overall 2.0 University grade point average for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

Readmission to the College

Students dismissed from the College of Engineering and Technology for failing to maintain a grade point average of 2.0 in the major courses may seek readmission under the following conditions:

First Collegiate Dismissal. The student on collegiate dismissal should first contact the chairperson of the department to which the student wishes to be considered for readmission. Upon recommendation of the departmental chairperson, the dean or the dean's designate may convene a readmission committee which will include the chairperson or the chairperson's representative from the department in which the student wants to be enrolled, a faculty member also from that department, and the dean or the dean's designate. The dean or the dean's designate may readmit a student dismissed from the college provided the student has interrupted education in the department for a minimum of two semesters and shows evidence that the program of study can be successfully completed. For this purpose, summer session will be considered a semester.

The student should supply written evidence to include: (1) any extraordinary circumstances that contributed to the collegiate dismissal; (2) why the student thinks there is a reasonable chance to succeed in studies; and (3) what the student was doing during the interruption period that will contribute to further success. For engineering students strong consideration will be given to those students who satisfy item 3 by earning a grade point average of at least 2.4 in at least 12 semester hours in engineering courses, prerequisite science or mathematics courses which are required for graduation in engineering at the University. These courses may be taken at another university or community college.

Insufficient documentation to justify the request will result in denial of the request for that semester.

Engineering students on collegiate dismissal but eligible to continue at the University may be admitted to a major in the Department of Technology in certain cases upon approval of the department chairperson without the two semester interruption.

Second and Subsequent Dismissals. A student on collegiate dismissal for a second or subsequent time may apply for readmission after an interval of no less than two calendar years. There are no exceptions. Students requesting readmission who have been on dismissal two or more times must be referred to a readmission committee by the department chairperson as described above.

Engineering students on a second or subsequent collegiate dismissal may be admitted to a major in the Department of Technology in certain cases upon approval of the department chairperson without the two year interruption.

Collegiate Dismissal Prior to Fall, 1985. A special provision has been provided for students who were dismissed from the College of Engineering and Technology at a time when the reentry grade point average was 2.0. These students may reenter the college in the same major if the student has continued education without interruption at the University or another institution and has an overall university grade point average of at least 2.0. For this purpose, summer session is not considered as an interruption.

In order to remain in the college, these students must complete twelve hours of engineering courses during the first semester of reentry and earn at least a 2.4

average. The student who does not earn at least a 2.4 average the first semester will be dismissed from the college. If the summer session is one of the semesters involved then six hours must be completed in the summer.

Students who reenter the college under this provision are subject to the current College of Engineering and Technology retention policy.

If a student was in good standing and interrupts education for reasons other than academic and does not complete or attempt to complete any additional college work, the student will be permitted to reenter the same major in which enrolled during the last semester of attendance at the University.

Any student who began work at the University Summer, 1985, or later is not covered by this provision.

Admission to Engineering and Technology Classes. Students who are on collegiate dismissal but eligible to continue at Southern Illinois University at Carbondale can take only the following engineering (ENGR) courses while on academic dismissal: Engineering 102, 222, 225, 235, 260a, and 260b. Students are not restricted from taking other required non-engineering courses. Students may register for Department of Technology classes upon the approval of the Department of Technology chairperson or designate.

Course Sequence

It is important that required courses in the program be taken in the proper sequence. Sequence guidelines are available from the college advisement office and the departmental offices. Courses on the 300 and 400 levels are reserved for juniors and seniors.

Course Withdrawals

Students who withdraw from a College of Engineering and Technology course after the fourth day of the Fall semester will not be permitted to take the course the following Spring semester. Students who withdraw from a College of Engineering and Technology course after the fourth day of the Spring semester will not be permitted to take the course the following Fall semester.

Transferred Credits

All transfer credit from an institution whose work is acceptable at the University, both two-year and four-year, will be used in fulfillment of the standards given above. Equivalencies for courses will be determined by the departmental chairperson, advisement office, or office of the dean, College of Engineering and Technology.

Students who are attending a public Illinois community college and contemplating application to the College of Engineering and Technology should obtain program information which has been prepared for their particular community college.

Qualified candidates for the Capstone Program are accepted with majors in industrial technology. The Capstone Program is described in Chapter 4.

Location

Administrative offices of the college are located in the Technology Building near Lake-on-the-Campus.

Graduate School

JOHN H. YOPP, *Dean of the Graduate School*

Southern Illinois University at Carbondale is a comprehensive university with an

extensive offering of graduate programs and an equally strong commitment to research.

More than 3,600 graduate students pursue advanced study and research under the leadership and direction of some 1000 graduate faculty members. The Graduate School offers master's degrees through sixty-two programs, the specialist degree (sixth year) in three areas of education, and the doctoral degree through twenty-five programs. The doctoral program in education has concentrations in eight areas.

The highest degrees awarded are the Doctor of Philosophy, the Doctor of Business Administration, and the Doctor of Rehabilitation. The Specialist degree is offered in the field of education.

In addition to the Master of Arts and the Master of Science degrees, the master's degrees awarded are Master of Accountancy, Master of Business Administration, Master of Fine Arts, Master of Music, Master of Public Affairs, Master of Science in Education, and Master of Social Work.

The Graduate School is fully accredited by the North Central Association of Colleges and Secondary Schools, and specific programs have been accredited by appropriate state and national accrediting associations.

A separate catalog describing admission and graduation requirements for the various programs in the Graduate School may be had by writing to the Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

School of Law

The school offers a three-year program leading to the Juris Doctor (J.D.) degree. Candidates must satisfy the entrance requirements, which include a bachelor's degree and a satisfactory score on the LSAT, fulfill the residence requirements, satisfactorily complete a total of 90 semester hours for credit and pass all required courses. Students may, with permission from the School of Law and the relevant graduate program director, obtain joint JD/MBA, JD/MPA and JD/Master of Accountancy degrees. In conjunction with the School of Medicine, the law school also offers a combined JD/MD program. Each year the school admits approximately 105 freshmen.

The law school has received accreditation from the American Bar Association and is a member of the Association of American Law Schools. The school occupies a new and contemporary facility housing classrooms, student lounges, administrative offices and the library, as well as a courtroom and in-house clinic offices. The law library contains more than 250,000 volumes and provides student access to computer assisted research through LEXIS and WESTLAW.

The faculty and student body of the school are of the highest quality, and its curriculum is designed to inculcate fundamental legal concepts and skills which are the hallmarks of the legal profession. In addition to the Socratic — casebook method, other teaching methods, including clinical, are utilized as the subject matter requires. The School of Law catalog can be obtained by writing to the School of Law.

College of Liberal Arts

JOHN S. JACKSON, *Dean*

Departments: Administration of Justice; Anthropology; Computer Science; Economics; English; Foreign Languages and Literatures; Geography; History; Linguistics; Philosophy; Political Science; Psychology; Religious Studies; Sociology

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts and Bachelor of Science degrees. Minors are possible in most of these areas. For exceptions, see Chapter 5.

Administration of Justice	Greek ¹
African Studies ¹	Japanese ¹
Anthropology	Latin ¹
Asian Studies ¹	Russian
Black American Studies	Spanish
Comparative Literature ¹	Geography
Computer Science	History
Earth Science ¹	Linguistics
Economics	Mathematics
English	Museum Studies ¹
Foreign Languages and Literatures	Paralegal Studies for Legal Assistants
Chinese ¹	Philosophy
Classical Civilization ¹	Political Science
Classics	Psychology
East Asian Civilizations ¹	Religious Studies
Foreign Language and	Sociology
International Trade	Speech Communication ²
French	Uncommon languages ¹
German	

¹Minor only.

²Liberal arts major, not professional major.

The College of Liberal Arts provides instruction in basic subject matter courses of General Education; majors in twenty-two subject areas; graduate programs for students pursuing master's and Ph.D. degrees; preprofessional curricula for specialized schools such as law and courses offered through the Division of Continuing Education. The Bachelor of Arts or Bachelor of Science degree is granted to students who fulfill requirements for graduation from the College of Liberal Arts. The courses of study outlined by the departments determine the degree awarded. Students in the College of Liberal Arts may also prepare directly for teaching at the secondary level by including in their studies certain professional courses offered by the College of Education.

Through the diversified offerings of the College of Liberal Arts, students develop the ability to seek and weigh evidence and to think critically and independently; they gain a fundamental understanding of the ever changing social, political, and physical environment, and a deeper understanding of people, cultures, art, and literature.

ACADEMIC REQUIREMENTS

To receive a degree from the College of Liberal Arts students must fulfill the following:

1. University requirements including those relating to General Education, residency, total hours completed, and grade point average.

2. College of Liberal Arts requirements of one year of a foreign language; one course in mathematics or computer science in addition to the General Education mathematics requirement; one course in English composition in addition to the General Education composition requirement. Foreign students whose native language is not English can use Linguistics 290 as a substitute for English 290 to fulfill the College of Liberal Arts requirement for the third composition course in addition to the General Education composition requirement. Foreign students whose native language is not English and who have successfully satisfied the re-

quirement of the Office of Admissions and Records for English language proficiency will have satisfied the College of Liberal Arts foreign language requirement by offering English as their second language. Foreign students who have met the English language proficiency requirement also must offer proof of literacy in their native language by providing a secondary school certificate from their native country.

- 3. Completion of an approved major in the College of Liberal Arts.
- 4. At least 40 hours of course work at the 300 or 400 level.

Liberal arts major requirements provide for a large number of elective courses, giving students maximum flexibility in planning their overall program of study at the University. To assist students in planning their programs, the college maintains an academic advisement office in Faner Hall 1229, as well as faculty advisers in each department. Students are urged to consult these academic advisers on how they can best use their electives to fulfill their intellectual interests and to prepare for particular career opportunities. A carefully planned minor or second major field can lead to additional career opportunities for the liberal arts major. Students who are planning to attend graduate school or one of the professional schools such as law or medicine should consult with their advisers on how best to plan their undergraduate curriculum.

University Honors Program

The University Honors Program is located administratively in the College of Liberal Arts. University Honors is a University-wide undergraduate program designed to offer unique educational experiences to participating students. The program includes special seminars, special sections of certain classes, and independent study. Some special scholarships and internships are available to University Honors Students.

Membership in the University Honors Program is granted to entering freshmen who apply for membership who have an ACT composite score in the 95th percentile or higher. Membership is also granted to other than entering freshmen who apply for membership and who have a cumulative grade point average of 3.25.

Members of the University Honors Program are designated as University Honors Students. Retention in the University Honors Program depends upon maintaining a 3.25 cumulative grade point average in all course work and no failing grades in honors courses.

Baccalaureate degrees for University Honors Students are awarded through the regular degree-granting units. Those who successfully complete the University Honors Program graduation option receive recognition on the academic record and on the diploma at the time the degree is recorded.

The Honors graduation option for continuing SIUC students, transfer students without Associate degrees, and entering freshmen is a minimum of 15 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the Director. The Honors graduation option for transfer students who enter SIUC with an Associate of Arts or an Associate of Science degree (including Capstone students), and two-year degree candidates at SIUC is a minimum of 9 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the Director. Substitution for this option may be arranged for a student in a major which does not allow curricular flexibility.

University Honors Students may substitute a University Honors seminar in General Education areas A, B, C, and E for their General Education requirements in those specific areas; for example, University Honors 351a for GEA, University Honors 351b for GEB, etc.

University Honors Students may be exempted from all General Education requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and

humanities, 520; English composition with essay, 565; and mathematics, 580; and (2) complete all requirements of the University Honors Program. No retroactive extension of the CLEP privilege will be allowed.

Fuller information and application forms are available at the University Honors Program office, Faner Hall 2427.

Pre-Law

The College of Liberal Arts has a pre-law advisory committee to help students plan a useful, interesting curriculum to acquire the skills important for the study of law. This committee is made up of faculty members of various University units who hold law degrees or who have particular expertise in fields important to law and pre-law preparation. The committee sponsors a Pre-Law Night each fall, when opportunities are presented for open discussion of undergraduate curriculum and the law school admission process. These discussions are led by students and faculty of the Southern Illinois University at Carbondale School of Law. A mock Law School Admission Test is given twice a year under regular test conditions.

The pre-law student may choose any major course of study. Among courses especially recommended for pre-law students is Liberal Arts (LAC) 105, Law in American Society, a special interdisciplinary course offered each fall semester. Students who are interested in pre-law may discuss academic programs and plans with pre-law advisers in the Liberal Arts Advisement Office.

School of Medicine

RICHARD H. MOY, *Dean and Provost*

Southern Illinois University School of Medicine was established in 1970 after the Illinois General Assembly passed a bill calling for a second medical school to be established in downstate Illinois. The school graduated an advanced standing class in 1975 and its charter class of all Illinois students in 1976. Currently, 72 students are admitted each year. Today, the school encompasses a complete sequence of medical education beginning with the M.D. degree and progressing through residency training and on to continuing medical education for practicing physicians.

The school's competency-based curriculum has brought the school national attention. Since students are not evaluated in competition with their peers, they are stimulated to cooperate with one another, a situation which more closely resembles what takes place in the actual practice of medicine. Problem-based learning concepts, including active learning situations with paper and simulated patients, are used to help students work toward competency throughout the curriculum. The four-year M.D. degree begins the first year in Carbondale where students concentrate on the basic sciences. The remaining three years are spent in Springfield where students study clinical medicine along with medical humanities and non-clinical electives.

The instructional program in Carbondale is based in Lindegren Hall and Memorial Hospital. In Springfield, it is based in the Medical School Instructional Facility, Memorial Medical Center, and St. John's Hospital.

The school's Medical Education Preparatory Program (MEDPREP) in Carbondale is designed to assist minority and other students with educationally disadvantaged backgrounds to prepare for success in medical and dental schools. The school has one of the highest percentages of minority students enrolled of any Illinois medical school.

The University residency programs include family practice, internal medicine,

medicine/pediatrics combined, neurology, obstetrics and gynecology, pediatrics, psychiatry, radiology and five surgical specialties. There are ten fellowships for advanced clinical work.

The school's continuing medical education program provides and accredits an extensive schedule of conferences and symposia for physicians and other health care professionals in central and southern Illinois. Springfield is the location for about three-fourths of the programs; the rest are coordinated through Regional Health Education Centers located throughout the lower half of the state and the school's Family Practice Centers.

The faculty in Carbondale's four basic science departments as well as Springfield's two medical sciences departments divide their time between teaching responsibilities and independent and collaborative research projects and regional support services. Both clinical investigators and the basic scientists collaborate on a wide-range of medical and scientific projects; they work in the various basic science laboratories on both campuses and in the clinical facilities located in the affiliated hospitals in Springfield. The faculty's commitment to research is further characterized by the offering of graduate programs leading to master's and doctoral degrees in physiology, in pharmacology and in medical microbiology and immunology.

Interfaced with all of its various educational and research programs is the provision of patient care through the various clinical departments and specialized clinics of the school and the practice of its physician faculty.

Although preference is given to applicants from central and southern Illinois intending to practice medicine in the state, up to ten percent of the places available may be offered to out-of-state applicants who apply through the early decision program. Inquiries regarding admissions and requests for a School of Medicine catalog should be addressed to the assistant dean for students/admissions, Southern Illinois University School of Medicine, P.O. Box 19230, Springfield, Illinois 62794-9230.

College of Science

RUSSELL R. DUTCHER, *Dean*

Departments: Botany; Chemistry and Biochemistry; Geology; Mathematics; Microbiology; Physics; Zoology

The College of Science offers majors, and in most cases minors, leading to the Bachelor of Arts and Bachelor of Science degrees in the following fields of study:

Biological Sciences	Microbiology
Botany	Physics
Chemistry	Physiology
Geology	Zoology
Mathematics	

A minor in earth science is also offered.

Included in the curriculum of each department are survey courses that provide an introduction to the subject matter of that discipline while fulfilling the General Education requirements of Southern Illinois University at Carbondale. These courses assist all students to develop an understanding and appreciation of the impact of science on one's daily life. Elementary and advanced courses are provided to prepare students for professional employment or entrance into professional and graduate schools. Graduate training is also provided by each of the science departments leading to the M.S. or Ph.D. degree. The research interests of the faculty are extremely diverse.

Students in the College of Science may prepare for teaching at the secondary level by fulfilling the additional requirements of the College of Education. The Bachelor of Arts or the Bachelor of Science degree is granted to students who fulfill the requirements for graduation as given and the requirements of the departments in which the students declare their majors.

Each department has specific requirements for students to major in the selected field of interest, but the College of Science has some minimum general requirements listed below.

ACADEMIC REQUIREMENTS

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail grading basis.

Biological Sciences. Six semester hours in courses offered by the biological sciences departments in the college, with the proviso that this requirement cannot be satisfied in whole or in part by General Education courses, but may be substituted for the latter in meeting the General Education requirements.

Foreign Language. The foreign language requirement can be met by one of the following: (a) passing an 8-hour 100-level sequence in one language; (b) by earning 8 hours of 100-level credit in one language by proficiency examination; or (c) completing three years of one language in high school with no grade lower than *C*. Tests administered during advisement of new students will determine whether proficiency credit is allowable.

A student whose native language is not English may use the native language to satisfy part or all of the science foreign language requirement at the University. If the language is presently taught at Southern Illinois University, academic credit may be earned. If the language is not presently taught at the University, no credit is given, but partial or full satisfaction of the science foreign language requirement may be granted if the student's major department so recommends. A student whose native language is English but who has learned another language not taught at the University may qualify without credit for partial or full satisfaction of the science foreign language requirement under certain circumstances, including formal recommendation by the student's major department and availability of an examiner and examination materials within the Department of Foreign Languages and Literatures. For information, the student should consult the College of Science advisement center.

Mathematics. The mathematics requirement can be met by (a) passing Mathematics 108 and 109 or 111 or its equivalent or Mathematics 140 or 141 or (b) completing three years of high school mathematics with no grade lower than *C* and achieving a score on the University's Mathematics Placement Test which allows the student to enroll directly in Mathematics 150.

Physical Sciences. Six semester hours in courses offered by the physical science departments of the college, with the proviso that this requirement cannot be satisfied in whole or in part by General Education courses, but may be substituted for the latter in meeting the General Education requirements.

General Requirements. At least 40 hours of the student's 120 hours for graduation must be at the 300 or 400 level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students submitting only the last year in residence, at least 24 of these must be at the 300 or 400 level.

PREPROFESSIONAL COURSES

A student planning a professional career in any of the following fields should register in the College of Science immediately: dentistry, medicine, optometry, physical therapy, podiatry, pharmacy, veterinary science. Preprofessional students should refer to the baccalaureate degree section in this chapter.

College of Technical Careers

HARRY G. MILLER, *Dean*

The College of Technical Careers is unique among institutions of higher learning in Illinois. The college offers technically-oriented academic programs which lead to the Associate in Applied Science and Bachelor of Science degrees.

The educational offerings of the school include:

1. Associate degree programs structured for entry of new students or free flow of students from other institutions or from other units within the University;
2. Post- or extra-associate offerings in occupational areas related to these programs; and
3. Baccalaureate programs for students with career goals in selected technical/professional areas.

Currently, the College of Technical Careers offers majors leading to the Associate in Applied Science degrees. These are:

Allied Health Career Specialties	Dental Technology
Architectural Technology	Electronics Technology
Automotive Technology	Law Enforcement
Aviation Flight	Mortuary Science and Funeral Service
Aviation Maintenance Technology	Photographic Production Technology
Avionics Technology	Physical Therapist Assistant
Commercial Graphics – Design	Radiologic Technology
Computer Information Processing	Respiratory Therapy Technology
Construction Technology	Office Systems and Specialties
Dental Hygiene	Tool and Manufacturing Technology

A number of these majors offer third year post-associate specializations to provide the student who holds the associate degree with additional competencies.

On the baccalaureate level, the College of Technical Careers offers the following majors leading to the Bachelor of Science degree:

Advanced Technical Studies	Electronics Management
Aviation Management	Fire Science Management
Consumer Economics and Family Management	Health Care Management
	Interior Design

Qualified candidates for the Capstone program are accepted into most of the baccalaureate programs. The Capstone program is described in Chapter 4 of this bulletin.

Requirements for associate and baccalaureate programs are listed in Chapter 5 of this bulletin.

Information on the college, its programs, and course offerings is available through the office of the dean, College of Technical Careers, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Undergraduate Academic Services

Undergraduate Academic Services includes the following programs:

Center for Basic Skills
Pre-Major Advisement Center
Special Majors

University Studies Baccalaureate
Upward Bound
Southern Illinois Regional Career
Preparation Program

Undergraduate Academic Services provides all undergraduate students a variety of programs designed to enhance and support the quality of academic life at Southern Illinois University at Carbondale. This unit assists students who are undecided as to their major, those who desire enriching and specially designed curricula, and those who need academic support services. The Bachelor of Science or Bachelor of Arts degree is offered through the University Studies Baccalaureate program. Students interested in Undergraduate Academic Services should contact the director.

Center for Basic Skills

The Center for Basic Skills offers special academic assistance through laboratory instruction, small group sessions, workshops, seminars, and tutorials in study/learning skills, speech communication, selected General Education courses, and personal and career counseling and guidance. In addition, a non-credit course, University 100, Learning Skills, is offered through the center. This course offers study/learning skills needed to pursue an education at the University. Although participation for some students may be required, any student is welcome to take advantage of these special services at no cost.

Pre-Major Advisement Center

The Pre-Major Advisement Center is the academic home of students who have not declared a major. The advisers have a wide acquaintance with the many programs offered by the University and are ready to help students select a suitable area of specialization.

Special Major

A student whose academic needs are not met by existing baccalaureate programs may arrange a special baccalaureate degree program in lieu of a standard curriculum. In consultation with a faculty sponsor, the student draws up a program for which the baccalaureate degree will be awarded, with final approval from the director of Undergraduate Academic Services. The special program should have structure, organization, and a rationale consistent with the student's post-baccalaureate plans. The special major must include all University and unit graduation requirements.

Interested students should confer with the associate director for advisement and special programs Undergraduate Academic Services.

University Studies Baccalaureate

In the University Studies Program students pursue either a Bachelor of Arts or Bachelor of Science degree through an individually designed, broad based curriculum rather than a traditional specialization. The program accommodates multidisciplinary and non-traditional approaches to education and to related careers.

To determine eligibility for the University Studies program as well as to explore specific program possibilities, students should consult the associate director for advisement and special programs Undergraduate Academic Services.

Upward Bound

This is a pre-collegiate support program which identifies and recruits ninth to twelfth grade students in specific areas of southern Illinois who have the potential for serious academic work but who are insufficiently motivated. The program pro-

vides developmental, personal, and academic opportunities for underprivileged students who might not otherwise see themselves as future college students. Persons interested should direct inquiries to the director, Upward Bound.

Southern Illinois Regional Career Preparation Program

The Southern Illinois Regional Career Preparation Program is a Higher Education Cooperation Act program funded by the Illinois Board of Higher Education and sponsored by Southern Illinois University at Carbondale with John A. Logan and Shawnee colleges. The program is designed to increase motivation, to provide academic enrichment, to encourage career exploration and continued enrollment in school for promising southern Illinois minority students who are 5th 6th, 7th, 8th, or 9th graders. Instruction in critical thinking, computer science, mathematics, and career development is provided in the academic year and summer programs. Parents are given information about financial aid and specific guidance in assisting their children in academic and career pursuits. For additional information regarding this program, contact the project director, Undergraduate Academic Services.

Other Academic Activities

Library Affairs

Morris Library, named after the late Delyte W. Morris, University president from 1948 to 1970, is an eight-level building that contains about 2,000,000 volumes, over 14,000 current periodicals and serials, and 2,400,000 units of microforms. Collections of government documents, maps, films, framed art prints, and phonograph records exist as well. With the exception of those in Special Collections, most books and journals are arranged on open shelves and are accessible for browsing.

Morris Library houses four subject divisions (Education and Psychology, Humanities, Science, and Social Studies), a reserve reading room, Learning Resources Service, Special Collections, and the Undergraduate Library. Microform reading equipment is available in each subject division and the undergraduate library; the sound recording collection and listening equipment are provided in the Humanities Division. Online catalog terminals located throughout the library identify most of the collection. A central card catalog is located on the first floor, as is the central circulation desk where materials are checked out using an automated circulation system. The browsing room, located on the first floor, contains recent books of a popular nature to provide recreational and avocational reading. Self-service photocopying machines are available to patrons on each floor. Some library materials are housed in the Library Storage Building from which items are retrieved regularly.

The Undergraduate Library, located on the first floor, contains a collection of 100,000 volumes that are considered basic to the undergraduate curriculum. A professional staff is available to provide special attention to the needs of undergraduate students and assist them in finding the information they want in a universe of materials as large and complex as a research library.

An on-line bibliographic search service offers access to over 300 machine-readable data bases which may be searched via computer terminals. In addition, CD-ROM (Compact Disc) stations provide access to recent information in thousands of periodical titles. Reference librarians in each subject division are available to aid the researcher in developing a search strategy to obtain computer-produced bibliographies on a variety of topics.

Morris Library is a member of the Illinois Library Computer System (LCS),

which provides an on-line circulation system to participating libraries and supports computerized interlibrary loan activity among academic libraries to promote and enhance resource sharing on a state-wide basis.

Learning Resources Service, located in the basement of Morris Library, provides a broad range of instructional support services that enhance student learning through the creation of outstanding instruction. The Learning Resources Service is divided into four units, each designed to provide specific instructional support services. The instructional development unit consists of faculty members who are available to faculty and teaching staff for consultation on the teaching-learning process. This staff works with faculty in the systematic analysis, design, and evaluation of instruction. The media services unit provides media support to faculty through the film library, photographic, video and graphics production, and the Self Instruction Center, where students can utilize materials designed to support classroom instruction. The Student Media Design Laboratory, found within the Self Instruction Center, enables students to produce instructional media for classes, projects, and student teaching experiences. The campus services unit provides audio-visual support for the campus. Instructional Evaluation provides optical scanning of test and evaluation forms. Professional assistance is available when utilizing Learning Resources Service, and services are provided free or at a nominal cost.

Special Collections, on the second floor of Morris Library, maintains the rare books collection, manuscripts and University archives. It contains important research collections in American and British expatriate literature, twentieth century philosophy, proletariat theatre, the Irish literary renaissance, and press freedom. The use of these non-circulating materials is restricted to those doing research, but others are encouraged to visit the area and view the numerous exhibits. Two major editorial projects, The Center for (John) Dewey Studies and the Ulysses S. Grant Association, compile, edit, and publish the works of these individuals.

Credit courses in bibliographic instruction, library use, and information retrieval are offered on a regular basis and a wide range of information and orientation brochures and materials are available.

The library faculty and staff recognize the complexity involved in using a research library and are eager to help students, faculty, staff, and others in satisfying their information needs.

Division of Continuing Education

The Division of Continuing Education extends the University's educational mission beyond regular course offerings and campus boundaries. The division's off-campus credit programs, the Evening/Weekend Program, credit free classes, workshops and conferences, the Individualized Learning program, and the contractual services program offer the University's resources to a variety of groups and individuals both on and off campus.

Off-Campus Credit. Off-Campus credit programs are designed to meet the educational needs of adults wishing to pursue a degree but who are unable to travel to the Carbondale campus. Faculty teaching off-campus courses are approved by the appropriate department. Graduate courses in agriculture, education, and rehabilitation administration, as well as a variety of upper division undergraduate courses are offered at various locations throughout Illinois. An undergraduate degree program in University Studies is available to students at selected, off-campus sites.

Evening and Weekend Program. The Evening and Weekend Program provides in-

dividuals within commuting distance of the campus the opportunity to take up to 26 undergraduate hours of college work on a special admission basis. Tuition is the same as for all other undergraduate courses, but students in the program pay reduced fees.

Individuals who possess a high school diploma or GED certificate and who have not been academically suspended from Southern Illinois University at Carbondale or any other institution of higher education during the twelve months prior to application for the Evening and Weekend Program are eligible for admission. Students may take course loads not to exceed eight semester hours during fall and spring semesters and up to five hours during summer session. The division's office is open one evening a week during registration periods for adults who wish to enroll or inquire about the program. Registration may be completed by telephone and mail.

Individualized Learning. Individuals who cannot attend classes at scheduled times may wish to enroll in an individualized learning course. Such courses are designed to be completed by the students at their own pace and time and, in many instances, in their own home. All courses in the Individualized Learning program are developed by University faculty and approved for academic credit.

Contractual Services. The contractual services office provides specialized educational services to groups, organizations, governmental agencies, and businesses on a cost-recovery basis. These services are provided regionally, nationally, and internationally.

Credit-Free Activities. Conferences, workshops, seminars, and symposia in virtually every field of study are conducted either on or off campus. The division assists with all aspects of program development and implementation, including identification of the clients, design of the program, selection of the facility and final evaluation and reports. Major emphasis is placed upon utilizing the campus for annual national conferences and conventions of professional and specialized organizations.

The Professional Development Series features instruction by University faculty, as well as carefully selected specialists from business, industry, and other professions. A spectrum of educational offerings provides an opportunity to enhance one's personal and professional development. Continuing Education Units (CEUs) are available for many of these offerings and other learning experiences provided by the division.

An award winning Community Listener's Permit Program opens classrooms of SIUC to the people of Southern Illinois. It is a special program that provides people of all ages and walks of life the opportunity to access the college classrooms without enrolling for credit. For a modest fee and the permission of the instructors, participants can sample subjects that interest them the most from "art history" to "zoology".

Military Programs

The Office of Military Programs is the central administrative unit for the University's various programs for military personnel. Currently, baccalaureate programs are offered through the College of Education, the College of Technical Careers, and the College of Engineering and Technology. The office serves as the principal point of contact and represents the University with external agencies in matters pertaining to educational programs at military bases. For additional information refer to the section on student work and financial assistance in Chapter 1, to the Capstone Program in Chapter 4, and credit granted for military experiences in

Chapter 2. Additional information on the academic unit descriptions and majors may also be found in this chapter and Chapter 5. Students interested in admission should consult the Southern Illinois University at Carbondale base representative on the appropriate military base.

Aerospace Studies – Air Force ROTC

Aerospace Studies offers two-year and four-year programs which are open to both men and women, leading to a commission in the United States Air Force. The four-year program is divided into the General Military Course (GMC), covering the freshman and sophomore years, and the Professional Officer Course (POC), covering the last two years for which cadets are competitively selected. Students in the four-year program attend a four-week field training course in the summer between their sophomore and junior year. Students can qualify to enter the two-year program at the POC level by attending a six-week field training course during the preceding summer. Cadets must complete a course in mathematical reasoning during Air Force ROTC membership.

The GMC prepares students for the POC and provides them with an education for space age citizenship of long range value whether they remain civilians or become officers in the U.S. Air Force. The courses of the POC are designed to provide the basic knowledge, understanding, and experiences which are required to become an effective junior officer in the modern air force. The student learns about the wide range of USAF career specialties open and has an opportunity to request duty in those fields where qualified. Students contracted into the POC and federal scholarship recipients receive a \$100 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for full scholarships for their remaining years at the University. In addition to full tuition and fees, the scholarship provides a monthly tax-free subsistence allowance. Also, two-year AFROTC scholarship and State of Illinois (Senate Bill 381) tuition waivers are available on a competitive basis. Federal scholarship recipients must agree to successfully complete at least two semesters of instruction in a major Indo-European or Asian language or equivalent prior to commissioning.

In addition to the courses offered for academic credit, Aerospace Studies sponsors related extracurricular activities. The Aerospace Club is open to all members of the student body. The Arnold Air Society, a national honorary service organization, is open to selected AFROTC cadets. Membership in the Angel Flight, an auxiliary of the Arnold Air Society, is open to all undergraduates. Angel Flight assists with community and campus service-oriented projects. The Saluki AFROTC Drill Team is open to selected AFROTC cadets on a competitive basis. Members participate in local community events and in selected drill competition meets throughout the region.

Further information may be obtained from the Department of Aerospace Studies, 807 South University Avenue, 453-2481.

Army Military Science –Army ROTC

The senior Army Military Science program offers a progressive adventure-filled two-year and four-year program, designed to teach students the leadership and management skills needed to pursue an exciting career in the United States Army. The student who successfully completes the program will normally receive a commission either in the Regular Army, the Army Reserves, or the Army National Guard. Students may request and be guaranteed reserve forces duty, which allows the student to pursue parallel dual careers in the reserve components of the Army and civilian economy. The four-year program is divided into the basic

course, covering freshman and sophomore years, and the advanced course covering the junior and senior years. Students qualify for direct entry into the advanced course level (two-year program), by completing a six-week basic leadership course during the summer at Fort Knox, Kentucky.

Veterans, National Guardsmen, Army Reserve personnel, students who have completed the basic course, and students who have completed three or more years of junior ROTC may also qualify for entry into the ROTC advanced course.

The basic course prepares the students for the advanced course and provides them with an education in national defense and basic leadership and management skills. The advanced course is designed to provide training and instruction encompassing a wide range of subjects from organizational and managerial leadership, ethics and professionalism, and military justice to the United States military history. The understandings and experiences derived from these courses and adventure training exercises are required to enable a student to grow into an effective junior officer in the U.S. Army.

The student additionally learns about the wide range of Army career specialties available and has the opportunity to request duty in those fields where qualified. Students completing the advanced course prior to graduating may request early commissioning in the Army Reserves or National Guard. Those students currently in the Guard or Army Reserves may continue to participate in their Guard/Reserve unit and pursue a commission through the Army's Simultaneous Membership Program. Those students who qualify and are contracted for the advanced ROTC program will receive \$100 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for Army Military Science scholarships for two or three years. These scholarships pay full tuition, fees, books, and a \$100 per month subsistence allowance. Any Southern Illinois University at Carbondale student who has at least two academic years of school remaining and who can meet advanced course prerequisites may compete for any Army ROTC scholarship. Illinois residents, who are enrolled in ROTC, can compete for state Army ROTC scholarships, which pay tuition and other selected fees.

In addition to courses offered for academic credit, the Department of Army Military Science sponsors extracurricular activities. The Ranger Company, Pershing Rifles Drill and Color Guard Teams, and AUSA Company are open to all ROTC students. Adventure training takes shape in the form of rappelling clinics conducted at Giant City State Park, field training exercises, survival training conducted at Touch of Nature Environmental Center and Shawnee National Forest and Civil War Battlefield terrain walks. The department also sponsors numerous formal social functions throughout the year.

Further Information may be obtained from the Department of Army Military Science, telephone (Area Code 618) 453-5786.



4 General Education and Courses

This chapter contains information about the general education requirements and courses along with a list of approved substitutes for general education. The Capstone Program is also included in this chapter. Majors and minors are included in Chapter 5 with a description of the requirements for their completion and a listing of the departmental classes.

Abbreviations Used in this Chapter

The five areas of General Education are referred to as GEA, GEB, GEC, GED, and GEE. Specific courses are identified by three-digit numerals plus, in some cases, a single letter. The first numeral of the three indicates the level of that course. A letter following the three numerals may indicate a *part* of a course (where *a* means first part, *b* means second part, etc.). A numeral or numerals separated from the identification number by a dash indicates the number of hours of credit received in the course.

Course Descriptions

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors or seniors depending on whether the digit is 1, 2, 3, or 4. If the digit is 0, the course is not properly in the above categories.

Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites. If a course is a part of the undergraduate pass/fail system, it is so indicated by the term "Mandatory Pass/Fail."

Not all of the courses described here are offered every semester or even every year. To determine when and where a course is to be offered, consult the schedule of classes obtainable from University Publications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. When requesting a schedule, please specify *semester*.

General Education Requirements

The University believes in a strong, well-rounded general education for all students which includes a common core of knowledge. It has, therefore, established General Education course requirements which serve as the general education requirements for all baccalaureate degrees. The University also recognizes that not all students have the same interests or goals so the General Education requirements provide for flexibility in making course selections to fulfill requirements.

Area A: Our Physical Environment and Biological Inheritance	9
Core: Select one 3-hour course from each of the following two groupings	
1. GEA 101 or GEA 106 or GEA 110	
2. GEA 115 or GEA 117 or GEA 118	
Elective: One additional course selected from any other courses offered in GEA	
Area B: Our Social Inheritance and Social Responsibilities	9
Core: Select one 3-hour course from two of the following three groupings	
1. GEB 103 or GEB 104 or GEB 105	
2. GEB 114 or GEB 211	
3. GEB 108 or GEB 202	
Elective: One additional course selected from any other courses offered in GEB	
Area C: Our Insights and Appreciations	9
Core: Select one 3-hour course from two of the following three groupings	
1. GEC 100 or GEC 101	
2. GEC 102 or GEC 208	
3. GEC 122 or GEC 330	
Elective: One additional course selected from any other courses offered in GEC	
Additional coursework from areas A, B, or C.	3
Students must complete a total of 30 semester hours in Areas A, B, and C. Within each area, they must complete a minimum of 9 semester hours with the required distributions. The remaining three semester hours may be selected from any coursework offered in areas A, B, or C or from the approved substitution list which has not already been counted for General Education.	
Area D: Organization and Communication of Ideas	12
Composition: GED 101 and GED 102	6
GED 101 must be completed with a grade of C or better.	
GED 120, if completed with a grade of C or better, will also complete the composition requirement.	
Speech: GED 152 or GED 153	3
Mathematics: GED 107	3
Mathematics 114 will also complete the mathematics requirement.	
GED 106 cannot be used to fulfill Area D requirements.	
Area E: Human Health and Well Being	4 ¹
GEE 107 or GEE 201 or GEE 236	2
Two hours selected from physical education activity courses offered in GEE	2
Total	46

¹Physical Education Requirement exceptions: 1)the student who has served one year or more in active military service and is eligible for military benefits may request physical education credit through the Office of Admissions and Records; 2)a student who is at least 30 years old will automatically receive a waiver of physical education requirements. Students in teacher certification programs must still meet the requirements of their specific programs.

Some programs and upper division academic units require specific General Education courses, particularly in English composition. A student may determine these requirements by referring to program descriptions in Chapter 5.

MEETING GENERAL EDUCATION REQUIREMENTS

These requirements may be met by any of the following, subject to the rules and limitations appropriate to each means.

1. Completion of appropriate General Education courses with a satisfactory grade;
2. Proficiency credit by examination for General Education courses or approved substitute courses. Substitutions for General Education courses are limited to 15 hours.

3. Proficiency credit via General Examinations of the College Level Examination Program or Advanced Placement Examinations of the College Board (See Program Flexibility in Chapter 2);

4. Transfer credit for courses evaluated as equivalent to General Education courses or approved substitute courses; and

5. Completion of departmental courses listed as substitutions for General Education courses. (See List of Approved Substitutions below.)

General Education courses are offered at the 100, 200, and 300 levels. Few of these courses have specific prerequisites, and a student may decide when to enter a given level. Academic advisers can provide the student with appropriate information about individual General Education courses.

Beginning students are not restricted to enrolling in only General Education courses; the student who has selected a major is assisted in determining the proper courses to take by consulting curriculum guides obtained from an academic adviser.

List of Approved Substitutions. The department courses which have been approved as substitutions for General Education courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable General Education course.

GENERAL EDUCATION COURSE	APPROVED SUBSTITUTES
GEA 101-3	One of: Physics 203, 205, or 3 semester hours of technical physics.
GEA 106-3	One of: Chemistry 115, 140, 222, or 4 semester hours of technical chemistry
GEA 110-3	Geology 220
GEA 115-3	One of: Biology 306, 308, 309
GEA 117-3	Botany 200
GEA 202-3	Physics 203b or 205b
GEA 240-3	Biology 307
GEA 330-3	Military credit for meteorology
GEA unassigned-3, 6, 9	Three, six, or nine semester hours from University Honors 251a and/or 351a
GEB 103-3	Geography 300
GEB 211-3	One of: Agribusiness Economics 204; Economics 214, 215
GEB unassigned-3, 6, 9	Three, six, or nine semester hours from University Honors 251b and/or 351b
GEC 100-3	Music 101, or 3 hours of 102, 013, 014, 017, 020, 021, 022
GEC 101-3	Art 100
GEC 204-3	Art 207
GEC-Elective Area	A student with a full year or its equivalent of study in a single foreign language may substitute up to four semester hours in General Education Area C.
GEC unassigned-3, 6, 9	Three, six, or nine semester hours from University Honors 251c and/or 351c
GEA/B/C unassigned-3	Three semester hours for University Honors 251a/b/c or 351a/b/c
GED 101-3	Linguistics 101
GED 102-3	Linguistics 105
GED 107-3	One of: Mathematics 108, 109, 111, 114, 116, 117, 139, 140, 150, 250, or 4 semester hours of technical mathematics at the level of intermediate algebra

GEE 101-114-1 to 2	Two semester hours from: Physical Education 115, 116, 117, 120, 170
GEE 201-2	Health Education 350
GEE unassigned-1 to 2	One to 2 semester hours from University Honors 251e and/or 351e
GEE activity-1 to 2	ROTC field training (Army Military Science 358)

A maximum of 15 semester hours of comparable course work can be substituted for General Education requirements, with the exception of approved University Honors substitutions.

Flexibility and Other Features. The University believes in a strong, well-rounded general education program but does not accept the idea that every student must take the same course or program in meeting the objectives. Therefore, considerable latitude is permitted the student in meeting the objectives; alternate routes are provided within the General Education framework.

Accommodations to differences in student background, interest, and aspirations include:

1. Substitutions to a maximum of 15 hours of approved departmental courses can be made for General Education courses as previously outlined;
2. Proficiency examinations are offered regularly for some General Education courses; students should consult with their academic advisers for information concerning these examinations;
3. A University Studies Program (See Chapter 5) allows the students to design a broad undergraduate education.

The Transfer Student and General Education. A transfer student who expects to graduate from the University with a baccalaureate degree must meet the General Education requirements as outlined previously. All work done at other institutions will be evaluated and comparable courses will be applied toward the General Education requirements.

Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution, provides that the student will (a) be accepted with junior standing and (b) be considered to have completed the General Education requirements. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at the University or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Additional information concerning admission of a transfer student and the evaluation of transfer credit can be found in the sections of this catalog pertaining to those specific programs.

General Education Courses

OUR PHYSICAL ENVIRONMENT AND BIOLOGICAL INHERITANCE (GEA)

Courses

101-3 Conceptual Insights Into Modern Communication Systems: From Hi-Fi Sound to Laser Beams. The basic laws of nature will be presented in order to understand the functioning of modern communications such as high fidelity sound, radio, and television, and laser beams. There

will be a strong emphasis on the nature of home entertainment equipment with discussions on the nature of waves and sound, electricity, and electromagnetism. The students will develop an understanding of the technical vocabulary necessary to judge high fidelity equipment.

106-3 Chemistry for Non-Science Majors. Selected discussions of inorganic, organic, and biological chemistry and their relationship to our standard of living and quality of our health and environment. Three lectures with one voluntary help session per week.

110-3 Earth Science. Earth and its major domains with Earth's substances and processes emphasized. Lecture, laboratory. Laboratory manual \$3.

115-3 Biology. For students with a weak biology background or for students who are non-biology majors but have an interest in gaining general knowledge of our biological inheritance. An introduction to the evolutionary development of our physical and biological environment, to the biological problems and processes of a model living organism, and to the role of biological research in the world of the future. Lecture-laboratory. Laboratory manual \$4.

117-3 Botany: Plants and Society. An introduction to the basic principles of plant science, historical and modern applications of plants to the human experience, and modern concepts of plant ecology and conservation. Laboratories will include trips to woodlands, wetlands, farms, greenhouses, herbarium, supermarket, farmer's market, and various plant research facilities. A modest field trip fee may be assessed.

118-4 Introductory Zoology. An introduction to the basic concepts of animal life and its diversity, including the elements of cellular and organismic structure and function, reproduction, development, genetics, evolution, and ecology. Three lectures and one 2-hour laboratory per week. Offered fall, spring, and summer terms. A cost of \$5 may be incurred by student.

202-3 Space Science – Astronomy. The solar system, our galaxy, and the universe beyond. Fundamental concepts of the physical sciences as applied in astronomy to our space environment. Lectures will be supplemented by demonstrations and by occasional hours of individual or supervised astronomical observations. Purchase of exercise sheets under \$1.00.

221-3 Survival of Man. (Same as GEB 221 and GEC 221.) Topics discussed include the interrelated ethnological, technological, sociological, moral and ethical aspects of the environmental problems concerned with technology, air pollution, urbanization, natural resource utilization, agriculture and aesthetics. Emphasis is placed on understanding the total context in which environmental problems must be considered.

230-3 Energy and the Future. Lectures on power, energy, and related concepts. Review of current energy resources and use patterns and outlook for changing patterns including overview of new energy conversion technology and environmental impact of energy use. Look at energy from global viewpoint to identify future limits on energy usage. Voluntary class discussions and student paper presentations.

240-3 Ecology. Fundamental biological and ecological processes important in the individual, population, and community life of organisms including humans are discussed in the context of ecological systems. Lectures are supplemented by one hour of laboratory, field work, or other student options.

312-3 Conservation of Natural Resources. A study of people's use and misuse of natural environment emphasizing the ecological perspective.

330-3 Weather. Introduction to the processes that create the world's weather and its seasonal and geographic variations; basics of weather forecasting; issues of managing the atmospheric environment, including air pollution meteorology, causes and hazards of storms, human-induced climatic change, weather modification. May be taken as self-instruction or lecture/laboratory course. Weekly workshop emphasizes laboratory experiments, field observations, and computer simulations of atmospheric processes.

OUR SOCIAL INHERITANCE AND SOCIAL RESPONSIBILITIES (GEB)

Courses

102-3 The Western World. A topical study of the fundamental social, economic, and political elements constituting the traditions of western civilization which are still relevant today.

103-3 Geography of the Human Environment. Provides students with basic information on the nature and problems associated with the major environments of the world. The geographical distribution of climate and physiographic elements of world environments are described. The problems of economic development, environmental change, and the relation of people to the land in the major regions of the world are investigated. Purchase of materials in the range of \$4.

104-3 The Human Experience: Anthropology. An exploration of different human lifeways around the world, past and present - for example, American Indians, Aztecs, and Egyptians. The question of what is universal to all humans as opposed to how they differ is investigated by studying modern peoples, the remains of past cultures through archaeology, and human origins and physical variation.

105-3 The Contemporary World. An examination of the fundamental problems of the contemporary era as seen in historical perspective. No credit toward the major in history.

108-3 The Sociological Perspective. An examination of the range of social relationships among people: basic sociological concepts and theories, social groups, social institutions, social and cultural change, and social deviance.

112-3 Comparative Economic Systems. Introductory investigation of the historical development of the theoretical economic systems of capitalism, socialism, and communism and the practical workings of those systems in such nations as the U.S., the U.S.S.R., Great Britain, China, Yugoslavia, Iran, Poland, et al.

114-3 Introduction to American Government and Politics. An introduction to American government including the cultural context, structure and functions of the national political system, and some attention to subnational politics.

202-3 Introduction to Psychology. An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus (about \$3.00 to \$3.50).

205-3 Consumer Decision-Making. To acquaint students with the influence of resource limitations, markets, government, and other socio-cultural forces on individual consumption decision; to analyze the information and apply the economic principles relevant to rational decisions; to increase awareness of consumer rights and responsibilities and the consumer's role in the economy. Students should be able to make more effective purchase decisions and to critically appraise the U.S. economy from the viewpoint of consumers.

211-3 Contemporary Economics. A study of the basic economic problems confronting America and the world today. This course gives students a broad latitude in the structuring of topics to be discussed. Problems are discussed from the point of view of public policy as well as theory.

215-3 Comparative Race and Ethnic Relations. Comparative study of race and ethnic relations in the U.S., in other developed societies, and in selected developing countries: the persistence of ethnic/racial identities; inter-group relations; government policy; assimilation, segregation, amalgamation, conflict, social problems; separatist and other social movements.

221-3 Survival of Man. (See GEA 221.)

250-3 Politics of Foreign Nations. Politics and the societies and cultures that shape them. Western democracies, Third World, communist countries.

262-3 Marriage and Family in Contemporary Society. Survey of contemporary family life within historical and cross-cultural perspectives. Overview of recent trends in mate selection, marriage, parenthood, employment, and communication in the family.

301-3 Modern America from 1877 to the Present. A general survey of the political, social, and economic development of the United States from 1877 to the present. Purchase of books and materials in the range of \$7.

OUR INSIGHTS AND APPRECIATIONS (GEC)

Courses

100-3 Music Understanding. The aural perception of musical sound events, relationships, and structures. Helps the student to become a more sensitive and perceptive listener. Listening assignments include a wide variety of styles and kinds of music. Not historically oriented.

101-3 Introduction to Art. A basic introduction to the theory, meaning, and creation of visual art with emphasis upon interdisciplinary concerns. Two hours lecture and two hours studio per week. Possible incidental fee maximum \$5.

102-3 Problems in Philosophy. Introductory survey of some main philosophic problems concerning people, nature, society, and God, as discussed by major Western thinkers.

103-3 Introduction to Theater. Introduces students to the world of theater. Through lectures, films, plays, and text readings, students examine various aspects of theater, including history, aesthetics, criticism, and production. The course provides a general background in theater and an opportunity to develop an understanding and appreciation of this art form.

104-3 Moral Decision. Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers of past and present.

122-3 Appreciation of Literature. A study of masterpieces of fiction, drama, and poetry stressing the timeless nature of world literature. This course is designed to teach and delight by reading, among others, the great works of Shakespeare, Whitman, Poe, Lewis Carroll, Kafka, Arthur Miller, Camus, Sylvia Plath, and Kurt Vonnegut.

200-3 Oral Interpretation of Literature. Beginning study of the oral interpretation of literature: appreciation, analysis, performance. Emphasis is upon literature as human experience and upon the creative role of the reader in engaging the literary text. Incidental costs not to exceed \$2.

204-3 Meaning in the Visual Arts. Designed to provide students a broad understanding of the history of art and its relation and implications to contemporary culture. Emphasis is placed on the relation of art to all disciplines, historical and contemporary.

205-3 Innovation for the Contemporary Environment. A variety of factors affecting creative individual and small group problem solving and its relevance to the contemporary environment are explored in theory and in practice. Purchase of book \$4.50.

- 208-3 Elementary Logic.** Study of the basic forms of reasoning, with emphasis on the evaluation of arguments encountered in everyday life.
- 213-3 East Asian Civilization.** An introduction to East Asian cultural traditions. Literature, philosophy, history, and art of China and Japan.
- 215-3 Types of Religion.** An introductory study of selected world religions, emphasizing their meanings for their respective participants, their socio-cultural contexts, and their contributions to the religious history of civilization.
- 221-3 Survival of Man.** (See GEA 221.)
- 230-3 Classical Civilization.** (Same as Women's Studies 260.) A study of the ancient Greeks and Romans, against a background of the world they inhabited. Literature, history, art, philosophy, and sex roles of these peoples, especially at the height of their respective civilizations.
- 330-3 Classical Mythology.** (Same as Women's Studies 364.) An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.
- 340-3 The Western Cultural Tradition.** The historical evolution of the visual arts, architecture, and music in the context of society and literature, from ancient Greece to the present.
- 345-3 Literature and the Modern World.** The study of poetry, drama, and fiction of British, American, and world literature written since 1914. Themes, patterns, and artistic achievements will be studied in connection with the intellectual and cultural backgrounds of the modern age.

ORGANIZATION AND COMMUNICATION OF IDEAS (GED)

Courses

- 101-3 English Composition.** Basic principles of sentence structure, paragraphing, and organization. Purchase of handbook in the range of \$4 to \$5.
- 102-3 English Composition II.** A review of the principles of writing introduced in 101 and practice in the techniques of writing documented papers. Prerequisite: 101 or equivalent, with minimum grade of C.
- 106-3 Elementary Algebra.** For students with less than one year of high school algebra, this course serves as the prerequisite for the following courses: GED 107 and Mathematics 114 and 116. Completion of this course does not satisfy any University graduation requirement. In particular, it does not satisfy the general education mathematics requirement and it does not count toward the 120 hours needed for graduation. Mandatory Pass/Fail.
- 107-3 Intermediate Algebra.** Properties and operations of the number system. Elementary operations with polynomials and factoring. Elementary operations with algebraic fractions. Exponents, roots, and radicals. First and second degree equations and inequalities. Functions and graphing. Systems of equations and inequalities. Exponential and logarithmic functions. Prerequisite: one year of high school algebra or GED 106.
- 120-3 Freshman Honors Composition.** Some important works in the history of thought by writers such as Plato, Dostoevsky, Freud, and Marx will be read and discussed. The intellectual problems which they raise will become the subjects for essays in which students are required to show mastery of various methods of organizing exposition. This course fulfills the University freshman composition requirement. Prerequisite: top ten percent of the English section of ACT or the qualifying score on the CLEPtest.
- 152-3 Interpersonal Communication.** Designed to enable students to better understand and exercise interpersonal communication skills. Includes both theoretical content and performance sessions.
- 153-3 Public Speaking.** Principles of communication as applied to public settings (speaker/audience). Developing research and speaking skills in the preparation and presentation of various types of messages.

HUMAN HEALTH AND WELL-BEING (GEE)

Courses

Courses numbered 100-106 are basic or beginning level courses; those numbered 114 are intermediate level. The instructor may have the right to evaluate the skill level of the student at the beginning of the course and reassign the student to the proper level or another activity. Most GEE physical education classes will be offered on a variable credit of one or two semester hours; one-hour courses meet two hours per week or equivalent; two-hour courses meet four hours per week or equivalent. Students will not be allowed to change from a one-hour to a two-hour section or vice versa after the University drop and add period. Students may not earn one semester hour for attending one-half of the sessions scheduled for a two semester hour course.

Appropriate clothing, as determined by instructor, is required for each class. For

some activity classes, students are required to furnish equipment, provide own transportation, and pay a course charge.

100-1 to 4 Restricted Physical Education. For physically handicapped students as recommended by Health Service. Mandatory Pass/Fail.

101-1 to 24 (1 or 2 credits per activity) Aquatics. Swimming suits and towels are provided, however, students may wish to provide their own swimsuit, towel, and cap (optional). A fee of \$2 is required for all classes listed. (a) Beginning swimming. (b) Intermediate swimming. Prerequisite: 101a or equivalent. (c) Diving. Prerequisite: 101b or equivalent. (d) Skin diving. Prerequisite: consent of instructor. Course charge. (e) Scuba diving. Prerequisite: consent of instructor. Course charge, special sections have a charge for field trips. (f) Lifesaving. Prerequisite: pass swim test first day of class, 500 yards, tread water. (g) Canoeing. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed. (h) Synchronized swimming. Prerequisite: 101b or equivalent. (i) Aquacises. Prerequisite: 101b or equivalent. (j) Water sports. (k) Kayaking. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed, course charge. (l) Sailing. Prerequisite: pass swim test first day of class, tread water 15 minutes while clothed, own transportation required.

102-1 to 10 (1 or 2 credits per activity) Fitness. A fee of \$2 is required for all classes listed. (a) Physical fitness. (b) Relaxation. (c) Weight control. (d) Weight training. (f) Aerobic dance.

103-1 to 16 (1 to 2 credits per activity) Dance. A fee of \$2 is required for all classes listed. (a) Square. (b) Folk. (c) Traditional social. (d) Introduction to modern dance. (f) Ballet. (g) Tap. (h) Current social.

104-1 to 34 (1 to 2 credits per activity) Individual and Dual Activities. A fee of \$2 is required for all classes listed except 104c and 104k. (a) Archery. Eight arrows required. (b) Badminton. Three shuttlecocks required. (c) Bowling. Lane fee \$18 per credit hour and bowling shoes required. (d) Distance running. (e) Cycling. Cycle required. (g) Fly and bait casting. Rod and reel required. (h) Golf. Five hard covered practice balls required. (i) Gymnastics apparatus. (j) Handball. Glove and ball required. (k) Horseback riding. Course charge, own transportation required. (l) Orienteering. Own transportation required. (m) Racquetball. Racquet and one can of balls required. (n) Tennis. Racquet and one can of new balls required. (o) Track and field. (p) Stunts and tumbling. (q) Wrestling.

105-1 to 12 (1 or 2 credits per activity) Team Activities. A fee of \$2 is required for all classes listed. All classes are coeducational. (a) Basketball. (b) Flag football. (c) Floor hockey. (d) Soccer. (e) Softball glove required for 12" softball. (f) Volleyball.

106-1 to 6 (1 or 2 credits per activity) Martial Arts. A fee of \$2 is required for all classes listed. (a) Self defense. (c) Karate. Karate uniform required.

107-2 Leisure in Contemporary Society. This course explores the meaning of leisure and recreation. The historical and contemporary relationships among work, time, education, cultural values and leisure are analyzed. In addition, the course attempts to develop the students' consciousness of leisure values and attitudes in order that they may clarify leisure's role in their professions and lives. For non-recreation majors only.

114-1 to 4 (1 or 2 credits per activity) Intermediate Individual and Dual Activity. (c) Intermediate bowling. Prerequisite: 104c or equivalent. Lane fee \$18 per credit hour and bowling shoes required; shoe rental available. (n) Tennis. Prerequisite: 104n or equivalent. Racquet and one can of new balls required. Fee of \$2 required.

201-2 Healthful Living. Personal and community health. Designed to meet general health education needs and to develop wholesome health attitudes and practices in college students.

236-2 Nutritional Ecology of Man. Interaction between people and their environment. Emphasis on nutritional implications of our social, biological, and physical surroundings. Purchase of supplies ranging from \$4 to \$5.

Capstone Program

The Capstone Program is for the transfer student who has earned an Associate in Applied Science degree or the equivalent certification and whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The Capstone Program's purpose is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Program are: (1) It is for selected occupational students who have changed their educational and occupational goals; (2) It is an alternative baccalaureate degree program involving no more than two additional

years of college at a four-year institution; (3) It seeks to recognize similar objectives in both two-year occupational programs and four-year baccalaureate degree programs; (4) It seeks to recognize similar objectives in certain work experiences and in four-year baccalaureate degree programs; and (5) It provides a unique opportunity for developing secondary and post-secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Program at Southern Illinois University at Carbondale can lead to the baccalaureate degree in any of the following areas:

- College of Agriculture
 - Agribusiness Economics
 - Agriculture, General
 - Animal Science
 - Food and Nutrition
 - Plant and Soil Science
- College of Education
 - Clothing and Textiles
 - Early Childhood
 - Vocational Education Studies
- College of Engineering and Technology
 - Industrial Technology
- College of Liberal Arts
 - Administration of Justice
 - Paralegal Studies for Legal Assistants
- College of Technical Careers
 - Advanced Technical Studies
 - Aviation Management
 - Consumer Economics and Family Management
 - Electronics Management
 - Fire Science Management
 - Health Care Management

The listing of majors which participate in the Capstone Program may change from time to time.

REQUIREMENTS FOR THE BACCALAUREATE DEGREE THROUGH CAPSTONE

A student completing the degree through the Capstone Program must complete the hour requirements, residence requirements, and average requirements required for all bachelor's degrees. These requirements are explained at the beginning of Chapter 3. The course requirements for the Capstone Program are explained below.

The following General Education requirements must be satisfied:

Science	6 semester hours (Two courses chosen from two different groups in A) ¹
Social Science.....	6 semester hours (Two courses chosen from two different groups in B) ¹
Humanities	6 semester hours (Two courses chosen from two different groups in C) ¹

Health and Physical Education	3 semester hours
English Composition	one course (3 semester hours or 4 quarter hours of GED 101 or equivalent)
Speech	one course (3 semester hours or 4 quarter hours of GED 152 or GED 153 or equivalent)
Mathematics	one course (3 semester hours or 4 quarter hours of GED 107 or equivalent)
Minimum Total Required	30 semester hours

¹For explanation of groups in Areas A, B and C see General Education Requirements above.

In addition to the General Education requirements, the student must complete the requirements specified in a contract to be developed between the student and the academic unit or department representative. The contract must include two years of work (60 semester hours) after receiving the associate degree or equivalent certification and must list the remaining requirements for the baccalaureate degree.

PROCEDURES FOR APPLYING TO THE CAPSTONE PROGRAM

In order to qualify for admission to the Capstone Program, the student must:

1. Have made application for admission to Capstone by not later than the end of the first semester in the bachelor's degree program. A student registered in a program in which Capstone is not available who changes to a program which does participate must submit the Capstone application by no later than the end of the first session in the new bachelor's program. The student who has been approved for Capstone in one program who changes to another program which also participates in Capstone must receive approval of the new program for continued participation in Capstone by not later than the end of the first semester in the new program.
2. Have earned an associate degree in a non-baccalaureate-oriented program of 60 semester hours or equivalent certification, prior to the completion of the first term in the baccalaureate program at Southern Illinois University at Carbondale. Equivalent certification, for the purposes of Capstone admission, is defined as the formal completion of a technically oriented program of two years duration (60 semester hours), resulting in the receipt of an equivalent associate degree, certificate, diploma, or other documentation as provided by the student's educational institution.
3. Have submitted all documentation of work prior to the associate degree by no later than the end of the second semester or session at the University. The documentation includes all official transcripts from institutions previously attended and may include test reports, evaluation of military experience or whatever other kind of training has been used to award the associate degree.
4. Have earned a minimum grade point average of 2.25 (4.0 scale) as calculated by the University grading regulations. An applicant denied admission to Capstone as a result of a low average upon completion of the associate degree may not be considered again after raising the average in subsequent work (credit beyond the associate degree).
5. Have entered a bachelor's degree program at the University which participates in the Capstone Program.
6. Have received certification from the academic unit at the University that a bachelor's degree program can be completed within the 60 semester hours of additional work required for the bachelor's degree. The certification will be determined after the Capstone application has been filed.

Copies of the application for admission to the Capstone Program are available in the Office of Admissions and Records.

5 Undergraduate Curricula and Courses

This chapter contains information about the undergraduate curricula and courses offered by Southern Illinois University at Carbondale. The course descriptions for undergraduate courses are included only. Courses offered for graduate students only are included in the Graduate Catalog. Chapter 1 of this bulletin includes a listing of the undergraduate majors and minors offered. Those majors and minors are included in this chapter with a description of the requirements for their completion. This chapter is arranged in alphabetical order.

Abbreviations Used in this Chapter

Specific courses are identified by three-digit numerals plus, in some cases, a single letter. The first numeral of the three indicates the level of that course. A letter following the three numerals may indicate a *part* of a course (where *a* means first part, *b* means second part, etc.) or may identify the topics or subject areas specified in courses such as readings or special problems. A numeral or numerals separated from the identification number by a dash indicates the number of hours of credit received in the course. For example, Physics 203-6 (3,3) indicates a first-level, two-part course of 6 hours in the Department of Physics. The two parts of the course may be referred to as Physics 203a,b.

In the areas of this chapter which describe course requirements for programs, numerals in parentheses in columns of figures pertain to semester hours which satisfy more than one requirement. They are in parentheses to avoid their being added to the total of the column, which would be a duplication of hours required. For example, under food and nutrition, GEA 115 satisfies part of the General Education requirements and contributes 3 hours toward the 45 hours required. The 3 hours are also required for the major in food and nutrition, but do not contribute to the printed total of 53-54 hours.

Course Descriptions

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors, or seniors, depending on whether the digit is 1, 2, 3, or 4. If the digit is 0, the course is not properly in the above categories.

Following the identification number are a dash and another number, which indicates credit allowed for the course. The maximum credit may be variable, such as Accounting 491-1 to 6. Variable credit courses which have a number of credit hours per semester or per topic which is limited, have those limits in parentheses following the total maximum hours of credit. An example of such a course is Administration of Justice 492-2 to 6 (2 to 3 per semester). Where courses are formally divided into parts, such as History 330-6 (3,3), the two or more numerals sepa-

rated by commas in parentheses indicate the credit allowed for each part of the course.

Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites. If a course is a part of the undergraduate pass/fail system, it is so indicated by the term "Mandatory Pass/Fail."

Not all of the courses described here are offered every semester or even every year. To determine when and where a course is to be offered, consult the schedule of classes obtainable from University Publications, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. When requesting a schedule, please specify *semester*.

Accountancy (School)

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Such information is required and used by parties, both internal and external to a business, a not-for-profit organization, and other entities.

The curriculum is designed to prepare a student with basic conceptual accounting and business knowledge necessary to develop a foundation for accounting career development. The curriculum consists of three segments, each designed for a specific purpose. The general education segment is designed to develop students' capacity for inquiry, abstract logical thinking, and critical analysis. A knowledge of humanities, arts, sciences, and general literacy which includes writing, reading, speaking, and listening provides the broad knowledge base and skills upon which to build professional study. The second segment provides general business and professional accounting education. The primary purpose of this segment is to provide students with the knowledge, sensitivities, and abilities all accountants should have for entry into the accounting profession and the capacity to apply these qualities under reasonable supervision. A broad systems orientation as well as a more specific professional accountancy orientation is developed within this segment. The third segment dealing with specialization is very limited at the undergraduate level. A student desiring to specialize in taxation, information systems, auditing, not-for-profit, or other areas should consider graduate study through a fifth year and the Master of Accountancy degree. The five year sequence is recommended by most authoritative accounting groups and required for CPA examination purposes in several states.

Accounting majors must achieve a 2.00 grade point average in accounting prefix courses taken at Southern Illinois University at Carbondale, as well as meet the College of Business and Administration's graduation requirement of 2.00 grade point average in business-prefix courses taken at Southern Illinois University at Carbondale. In addition they must also achieve a grade of C or better in accounting-prerequisite courses taken at Southern Illinois University at Carbondale and offered to satisfy the requirements of the professional business core and the major in accounting.

Accounting (Major, Courses)

Bachelor of Science Degree, College of Business and Administration

<i>General Education Requirements</i>	45
<i>Professional Business Core (See Chapter 3.)</i>	40
<i>Requirements for Major in Accounting</i>	24
Accounting 321 and 322 (financial)	6
Accounting 331 (managerial)	3

Accounting 341 (tax).....	3
Accounting 351 (systems).....	3
Accounting 361 (auditing)	3
Accounting 400-level electives. At least 3 hours must be from courses numbered 420 through 469	6
Electives	11
Total	120

Courses

210-3 Accounting Principles and Control. Prevalent accounting principles and practices employed in business organizations. Accumulation of data and usefulness of reports are considered. Tax implications of business studied. Not open to students with a major in the College of Business and Administration. No credit given for 210 if credit is claimed for 220.

220-3 Accounting I. Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset liability and owners' equity valuation and their relationship to income determination. No credit given for 220 if credit is claimed for 210. Prerequisite: sophomore standing.

230-3 Accounting II. A continuation of Accounting I with emphasis on the analysis and interpretation of accounting reports including ratios and funds flow analysis. The use of accounting information for managerial planning, control, and decision making through budgeting, cost and variance analyses, and responsibility accounting. Prerequisite: 220.

240-3 Individual Income Tax. Preparation of income tax returns. Federal income tax as applied to individuals. No credit given for 240 if credit is claimed for 341. Not open to those with a major in accounting.

321-3 Intermediate Accounting I. Current accounting principles and procedures relating to elements of financial reporting. Particular emphasis on current and fixed asset valuation. Includes learning Lotus 1-2-3. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; passed both 220 and 230 or equivalent with grade of C or better.

322-3 Intermediate Accounting II. Continuation of the study of accounting principles and procedures with emphasis on liabilities, corporate capital, and income determination. Preparation and use of special statements; analysis and interpretation of statements. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; passed 321 with grade of C or better.

331-3 Cost Accounting. Interpretation and managerial implications of material, labor, and overhead for job order, process and standard cost systems, cost-volume-profit relationships, direct costing, and budgeting. Accounting for complex process production flows, joint and by-products, spoilage, and scrap. Responsibility accounting and reporting. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; passed 230 with grade of C or better.

341-3 Introduction to Taxation. Background, principles, and procedures for the determination of taxable income as a basis for federal income tax. Particular attention is given those aspects which are at variance with usual accounting treatment in the determination of net income. Includes practice in the methodology of tax solutions. No credit given for 341 if credit is claimed for 240. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in both 220, 230, or equivalent courses.

351-3 Accounting Information Systems. Accounting systems analysis design and installation. The study of accounting information systems, including computer-oriented systems, with emphasis on the information and control functions of the management decision-making process. Also covers Lotus 1-2-3 and DBASE software. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in both 322 and 331; Computer Science 212 or equivalent.

361-3 Auditing. Standards, objectives, and procedures involved in examining and reporting on financial statements of business organizations. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in 322.

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: junior standing and limited to accounting majors or consent of school.

422-3 Current Development in Accounting Theory. Critical analysis of current developments in accounting theory, especially as reflected in the publications of major accounting associations. Prerequisite: junior standing and limited to accounting majors or consent of school; 322 with grade of C or better.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical

methods, and operations research. Prerequisite: junior standing and limited to accounting majors or consent of school; 331 with grade of C or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate, and trust of organization. Brief study of social security, federal and state estate tax and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: junior standing and limited to accounting majors or consent of school; 341 with grade of C or better.

451-3 Advanced Accounting Information Systems. A review of current systems design and operation methodologies with special attention to the advantages and disadvantages these provide to an integrated information system. Prerequisite: junior standing and limited to accounting majors or consent of school; 351 with grade of C or better.

461-3 Advanced Auditing. The study and application of selected auditing concepts and techniques. Hands-on application will be emphasized. Prerequisite: junior standing and limited to accounting majors or consent of school; 361 with grade of C or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: 230 with grade of C or better.

491-1 to 6 Independent Study in Accountancy. Independent study of specialized aspects of accountancy not available through regularly scheduled courses. Not for graduate credit. Prerequisite: a grade of C or better in each of 322, 331, 341, and consent of department.

495-1 to 6 Internship. Supervised work experience in professional accounting. Prerequisite: outstanding record in accounting and recommendation of the departmental committee on internship.

Administration of Justice (Major, Courses)

The Bachelor of Science degree with a major in administration of justice meets the career objectives of students interested in law enforcement, corrections, juvenile services, and other roles in social and criminal justice.

Four areas of specialization – law enforcement, security management, corrections, and juvenile justice and delinquency prevention – have been delineated to give a range of choices suitable for most students preparing for careers in a field of criminal justice. Within the framework of these specializations, under faculty guidance, a student may take supplemental courses which complement any of the above specializations, for example, computer science, accounting, management, foreign language. This approach provides a sound foundation in the administration of justice plus flexibility to accommodate individual interests and needs.

Qualified students may be admitted to the Capstone Program with a major in Administration of Justice. The Capstone Program is explained in Chapter 4.

A field internship placement may be an important element in the program and is encouraged for students who meet departmental criteria.

Bachelor of Science Degree, College of Liberal Arts

ADMINISTRATION OF JUSTICE MAJOR – LAW ENFORCEMENT SPECIALIZATION

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3)</i>	(4)+8-14
<i>Requirements for Major in Administration of Justice</i>	33
Core Requirements: 201, 290, 301, 310, 316	15
Law Enforcement Specialization Requirements: 202, 302, 303, and 9 hours selected from 403a, 403b, 403c, 408, 415, 451, 460, 472, 492.....	18
<i>Minor</i>	18
Spanish, Computer Science, one of the physical or social sciences or a group of accounting courses to substitute for the minor is recommended.	
<i>Electives</i>	9-15
Administration of Justice 395, other Administration of Justice courses, Health Education 334, Political Science 436 recommended.	
<i>Total</i>	120

ADMINISTRATION OF JUSTICE MAJOR – SECURITY MANAGEMENT SPECIALIZATION

General Education Requirements..... 46

GEB 108, GEB 202, GED 101 and 102, GED 107, GED 153 recommended.

College of Liberal Arts Academic Requirements (See Chapter 3.)..... (4)+8-14

Requirements for Major in Administration of Justice 41

Core Requirements: 201, 290, 301, 310, 316 15

Security Management Specialization Requirements: 302, 450, plus 15 hours selected from 451, Health Education 334, Industrial Technology 465, Psychology 323, Political Science 436 or 332, Accounting 220..... 21

Security Management Specialization Electives: 5 hours selected from 303, 344, 395, 403a, 403b, 403c, 415, 490, 492, Accounting 230, Management 304, Psychology 320..... 5

Minor 18

Computer Science, a foreign language, one of the related social sciences or a group of accounting, management, or law enforcement courses approved by the department.

Electives..... 1-7

Computer Science 102, 202, 212, Industrial Technology 341, Psychology 320, Political Science 445, 468 recommended.

Total 120

ADMINISTRATION OF JUSTICE MAJOR – JUVENILE JUSTICE AND DELINQUENCY PREVENTION SPECIALIZATION

General Education Requirements..... 46

College of Liberal Arts Academic Requirements (See Chapter 3.)..... (4)+8-14

Requirements for Major in Administration of Justice 32

Core Requirements: 201, 290, 301, 310, 316 15

Juvenile Justice and Delinquency Prevention Specialization Requirements: 12 hours selected from 300, 302, 344, 348, 415, 473, 474, 485..... 12

Juvenile Justice and Delinquency Prevention Specialization Electives: 5 hours selected from 390, 395, 402, 408, 472, 490, 492..... 5

Minor 18

Electives..... 10-16

Total 120

ADMINISTRATION OF JUSTICE MAJOR – CORRECTIONS SPECIALIZATION

General Education Requirements..... 46

College of Liberal Arts Academic Requirements (See Chapter 3.)..... (4)+8-14

Requirements for Major in Administration of Justice 32

Core Requirements: 201, 290, 301, 310, 316 15

Corrections Specialization Requirements: 12 hours selected from 300, 302, 344, 348, 408, 472, 473, 485..... 12

Corrections Specialization Electives: 5 hours selected from 390, 395, 402, 490, 492 5

Minor 18

Electives..... 10-16

Total 120

All majors are strongly encouraged to take an introductory statistics course. Not more than three hours of 395 may be counted toward the major. A student

may substitute Psychology 323 or Social Work 383 for Administration of Justice 301; Political Science 340 for Administration of Justice 302; Psychology 211, Sociology 312, or Political Science 300 for Administration of Justice 316.

Minor

A minor in administration of justice consists of 201 and 290 plus any combination of administration of justice courses to reach a total of 18 semester hours.

Courses

201-3 Introduction to Criminal Justice System. Survey of the agencies and processes involved in the administration of criminal justice. The history of English law; the criminal justice process and system, including underlying ideologies, procedures, fundamental legal concepts, and the roles and functions of police, courts, and correctional services.

202-3 Law Enforcement Services. An overview of the services provided by law enforcement agencies. Emphasis will be placed on the nature, scope, and functions of various agency work units in their provision of services to prevent crime, detect and apprehend offenders, provide regulatory services, and specialized community centered services.

290-3 Introduction to Criminal Behavior. Multidisciplinary study of the etiology and patterning of offender behavior.

300-3 Assessment of Offenders. Introduction to the procedures and issues of identifying and evaluating individual differences in offenders and among classes of offenders; analysis of typical diagnostic methods. Prerequisite: 201 and 290 or consent of instructor.

301-3 Human Relations in Criminal Justice. Delineation of major interactive patterns among staff members, between staff and clients, and among clients of probation and parole agencies and correctional agencies; introduction to problems of communication, bureaucracy, and leadership. Prerequisite: 201 and 290 or consent of instructor.

302-3 Introduction to Criminal Justice Administration. An introduction to the principles of administration and organization of criminal justice agencies. Prerequisite: 201.

303-3 Behavioral Aspects of Investigation. Principles of behavioral science are applied to the recurrent patterns of criminal investigation as a social and fact-finding process; survey of criminalistics. Prerequisite: 302.

310-3 Introduction to Criminal Law. The nature and theories of law and social control; legal reasoning and case analysis; simple legal research; statutory construction; principles and history of punishment; constitutional, historical, and general legal principles applicable to the criminal law.

316-3 Introduction to Criminal Justice Research. A basic introduction to the scientific perspective, relationship of research and theory, research design, measurement issues, reporting of research and program evaluation. Emphasis on problems peculiar to criminological research. Prerequisite: 201 and 290 or consent of instructor.

344-3 Drug Use. Types of drugs, drug impact on the American culture, legal and illegal uses of drugs, offenses related to drug use, reaction of the criminal justice system to drugs and drug users, and the treatment and prevention programs coping with drug use. Prerequisite: 201 and 290 or consent of instructor.

348-3 Treatment Modalities. Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies. Prerequisite: 201 and 290 or consent of instructor.

390-1 to 4 Readings in the Administration of Justice. In-depth, introductory and advanced readings in areas not covered in other Administration of Justice courses. The student must submit a statement describing the topic and relevant reading materials to the faculty member sponsoring the student's readings. Prerequisite: 201 and 290 and consent of instructor.

395-3 to 15 Supervised Field Experiences in the Administration of Justice. Familiarization and direct experience in applied settings. Under supervision of faculty and adjunct staff, the student assumes a student-participant role in the criminal justice agency. Student must submit internship application during the first thirty days of the preceding spring or fall semester. Prerequisite: 201, 290, 12 hours of administration of justice courses and consent of department. Mandatory Pass/Fail.

402-3 Group and Family Treatment in Criminal Justice. Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs, and transitional living situations.

403-3 to 9 (3 per topic) Enforcement Operations. (a) Advanced investigation; (b) Enforcement management; (c) Enforcement discretion. This course offering provides a broad coverage of law enforcement activities from detailed investigative work through specialized management techniques required. Some sections of the course may be offered only every other year. Prerequisite: (a) 303 or graduate status; (b) 202 or graduate status or consent of instructor.

- 408-3 Criminal Procedure.** An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, the exclusionary rule, civil liberties, eavesdropping, confessions, and related decision-making factors. Prerequisite: 310.
- 415-3 Prevention of Crime and Delinquency.** Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 201 and 290 or consent of instructor.
- 450-3 Public and Private Security.** An overview of important issues related to internal and external security and loss prevention. Covers security's historical development; its current role; different careers available; the prevention, detection, and reduction of hazards stemming from both internal and external sources; as well as certain administrative aspects.
- 451-3 Forensic Interrogation.** Forum focusing on forensic interrogation; conceptual framework for understanding the behavioral and psychological aspects of the process; discussion of its historical and philosophical development, general use in criminal and private security investigations, legal proceedings, and importance in a democratic society. Students receive both theoretical grounding and hands-on experience. Prerequisite: consent of instructor.
- 460-3 Women and the Criminal Justice System.** (Same as Women's Studies 476.) Addresses the topics of women as offenders, as victims and as workers in the criminal justice system. Prerequisite: 201 and 290 or consent of instructor.
- 472-3 The American Correctional System.** (Same as Sociology 472.) A survey of the correctional field, covering probation, institutional treatment, and parole. Historical development, organizational structure, program content, and current problems. Prerequisite: 201 and 290 or consent of instructor.
- 473-4 Juvenile Delinquency.** (See Sociology 473.) Prerequisite: 201 and 290 or consent of instructor.
- 474-3 Juvenile Justice.** The evolving definition of juvenile misbehavior and the legal mechanisms that have emerged to control it. The problems and promise of juvenile justice in terms of the juvenile code and court, law enforcement, juvenile institutions both custodial and treatment, and community treatment. Prerequisite: none; 473 or equivalent recommended.
- 476-3 Crime and Criminal Justice: International Dimensions.** Examination of sociocultural and political factors shaping criminality and responses to crime around the world. Similarities and differences in criminogenic conditions and practices of law enforcement and corrections are traced. Prerequisite: 201 and 290 or consent of instructor.
- 485-3 Corrections and the Community.** Traditional correctional functions are redefined to emphasize development of resources of community at large, diversion of convicted offenders from institutions, and direct involvement of correctional programs in community affairs. Prerequisite: three administration of justice courses or consent of instructor.
- 490-1 to 3 Independent Study in the Administration of Justice.** Supervised readings or independent investigative projects in the various aspects of crime control, treatment of offenders; and management of programs of law enforcement, courts, and correctional agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201 and 290 or consent of instructor.
- 492-2 to 6 (2 to 3 per semester) Contemporary Issues in Administration of Justice.** A forum for focusing on special interest topics depending on the availability of staff, visiting professors, and other selected instructional resources to cover a contemporary issue of concern to students and the faculty. May re-enroll for a maximum of six credits. Prerequisite: 201 and 290 or consent of instructor.

Advanced Technical Studies (Division, Major, Courses)

The College of Technical Careers offers the Bachelor of Science degree with seven majors. The advanced technical studies major is described below and the others are described in this chapter under aviation management, consumer economics and family management, electronic management, fire science management, health care management or interior design.

The Bachelor of Science degree programs are designed to provide technically-oriented programs of study which are made up of required core courses, program major requirements, approved major electives, approved technical electives, and the University's General Education requirements. Majors are available for students qualifying for enrollment in advanced technical studies, which is offered only on campus, in aviation management, electronics management, fire science management, and health care management.

Students with educational and occupational backgrounds and career objectives

in areas related to aviation, electronics, fire science, and health care are encouraged to pursue the major areas of study. Details of each major are listed in this chapter. Students with technical backgrounds and career objectives in areas other than those listed above are encouraged to pursue the advanced technical studies major.

Students who have earned a minimum of 26 semester hours of recognized post-secondary credit or equivalent as determined by the academic unit or with the consent of the department are eligible for admission. Students must have a cumulative 2.00 grade point average or better, based on course work at Southern Illinois University at Carbondale. Transfer students admitted in good standing are also eligible for admission. A minimum of 30 semester hours in the core and major courses must be taken with Southern Illinois University at Carbondale, with at least 24 of these hours taken after admission to the program. Students must complete all course work in the program core and major requirements and elective areas with a 2.00 grade point average or better. Additionally, students must fulfill all University requirements including general education, total hour requirements, residence requirements, and average requirements.

Qualified students may be admitted to the Capstone option for completion of University general education requirements. The Capstone option is explained in Chapter 4. Graduates of two-year occupational programs are encouraged to investigate the option. Qualified students can fulfill the requirements for the Bachelor of Science degree in technical careers by completing 60 additional semester hours approved by a Capstone adviser.

Provision is made for recognizing many forms of previous educational, military, and occupational experience for credit toward the degree. Credit is established by departmental evaluation. In addition, field internships and independent study opportunities are available.

Persons interested in the on-campus programs should contact the director, Division of Advanced Technical Studies, concerning advisement, program requirements, and other specifics. Persons interested in off-campus programs should contact the director, Office of Off-Campus Academic Programs.

Admission to the Bachelor of Science degree program in technical careers does not imply admission to any College of Technical Careers associate degree program.

ADVANCED TECHNICAL STUDIES (Major)

The advanced technical studies major is designed specifically for students who have entered career paths for which there are no traditional baccalaureate degrees. Students develop individualized learning contracts with the assistance of faculty advisers. The program is designed to build upon a person's education and work experience through courses selected to meet technical career objectives. It is ideally suited for community college and technical institute graduates holding occupationally-oriented associate degrees. These students are encouraged to take advantage of the Capstone option explained in Chapter 4. Students interested in technical areas not available through associate degrees are also encouraged to consider this major. The individualized nature of the program affords the flexibility to meet the needs of students from many diverse technical backgrounds who desire to develop and expand the skills to enhance their career opportunities.

Graduates find employment in business and industry in such fields as construction, automotive, data processing systems, office management, architectural drafting/design, graphic design, advertising, property management, small business applications, and allied health careers.

Bachelor of Science Degree, College of Technical Careers

<i>General Education Requirements</i>	46
<i>Requirements for Major in Advanced Technical Studies</i>	48
Core Requirements (or Approved Equivalents): Advanced Technical Studies 364, 416, and two of the following: 332, 383, 421.....	12
Twenty-four hours of approved advanced technical studies requirements with at least 15 hours at the 300-400 level.....	24
Twelve hours of internship, independent study, or approved equivalent.....	12
<i>Approved Career Electives</i>	26
<i>Total</i>	120

Courses

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 10 Work Study Internship. Provides work-study students with an opportunity to participate in an on-campus work experience related to their academic program and career objectives. Hours and credits are to be individually arranged. Mandatory Pass/Fail.

321-3 Seminar in Technical Careers. This course is designed to allow College of Technical Careers' students to become knowledgeable of specific and current requirements in the profession to which they aspire. Subject matter will be determined by academic major.

332-3 Labor-Management Problems. Students will gain a general understanding of the economic situation of which labor-management problems represent a subset. They will develop a perspective on the evolution of labor relations in the United States economy and on how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions. Lecture three hours.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

361-3 Fiscal Aspects of Technical Management. An introduction to fiscal structures and problems encountered in the technically oriented enterprise. Lecture three hours.

362-3 Legal Aspects of Technical Management. An introduction to the types of legal problems encountered in the technically oriented enterprise. Lecture three hours.

363-3 to 15 (3, 3, 3, 3, 3) Special Topics in Technical Management. Specialized study for the investigation of management problems relating to the student's career objective. (a) Management field experience. Structured practical experience in a controlled management environment. (b) Research management applications. Studies of management techniques as practiced in the profession. (c) Comparison analysis of organizational strategies in the professions. (d) Current trends. Readings regarding economic trends impacting upon the business or profession. (e) Employee relations. Study of the techniques of employee relationships to include the dynamics and procedures required for managing the work center. Need not be taken sequentially.

364-3 Work Center Management. A study of the problems of managing a small working unit (division, department, work center, section, etc.) within a larger unit (agency, company, regional office, etc.). Included items will be work center goals identification, staffing needs, monitoring of work process reporting, work center communications, and interpersonal relations within the work center. Lecture three hours.

383-3 Data Interpretation. A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis, and utilization of data.

412-3 Grantsmanship. Provides the student with an understanding of the availability of public and private funding in a specific technical area, how to apply for such funds, the process for approving such applications for funding, how the grants are administered once awarded, and who the funding agencies, companies, or foundations are. Each student will prepare a grant proposal in-

cluding objective statements, study methodology, work program, work schedule, program budget, end products, and overall packaging. Not for graduate credit.

416-1 to 4 Applications of Technical Information. This course is designed to increase student competence in analyzing and utilizing the various types of technical information encountered by managers in technical fields. Not for graduate credit.

421-1 to 3 Professional Development. Introduces students to the various elements involved in obtaining a position in their chosen career field. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references, and employment tests. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: enrollment in School of Technical Careers baccalaureate program or consent of instructor.

426-3 Technical Training for International Development. A better understanding of the necessary relationships between technology, technical training, and development, especially in third world countries. The successful completion of this course allows for a more effective appreciation in the transfer of technical training from the United States to other developing areas of the world which may include not only other nations but also underdeveloped parts of the United States. Not for graduate credit.

Aerospace Studies (Department, Courses)

Aerospace Studies is a voluntary course sequence leading to a commission as an officer in the United States Air Force. When commissioned, all officers must have at least a baccalaureate degree; hence completion of the program is contingent upon maintaining satisfactory progress toward graduation. Enrollment in the first two years (general military course) is unrestricted, and no military obligation is incurred. Special students who do not intend to obtain a commission are welcome.

Acceptance into the last two years (professional officer course — POC level) is competitive and requires qualification on the Air Force Officer Qualifying Test and a physical examination. For some officer candidates, the field of concentration must be related to an officer career specialty in the Air Force. Students in the professional officer courses do incur a military obligation. They are paid a monthly tax-free subsistence allowance. Graduate students who have two years remaining at the University, not counting summers, are eligible.

Qualified students may enter directly at the POC level without completing the general military courses by attending a six-week field training course during the summer prior to entrance. Four-year students attend a four-week field training course. Field training is conducted at Air Force bases and students are paid while attending.

Students are required to complete one three-hour course in mathematical reasoning as part of the program.

Leadership laboratory is a supervised laboratory taken concurrently with the aerospace studies courses. In the first two years, students develop leadership potential by participating in practical leadership situations, participating in and leading drill and ceremonies, learning customs and courtesies, and preparing for field training. In the final two years of AFROTC, students develop leadership potential by assuming command and staff responsibilities, supervising the GMC cadets, and implementing the goals and objectives of the leadership laboratory.

Courses

101-2 United States Air Force. Evolution of modern aerospace power and concepts on which it was developed. Introduction to aerospace support forces. Includes airlift, research and development, logistics, and education and training. Prerequisite: concurrent enrollment in leadership laboratory.

102-2 Aerospace Offensive and Defensive Forces. Introduction to U.S. general purpose and strategic offense forces, and the constraints involved in the use of modern weapons. Introduction to concepts, organization, equipment, and procedures involved in strategic defense of the United States. Prerequisite: concurrent enrollment in leadership laboratory.

201-2 The Development of Air Power I. History of manned flight from pre-aircraft to end of World War II. Develops the themes of doctrine, technology and evolution of aircraft, and U.S. Air Force. Prerequisite: concurrent enrollment in leadership laboratory.

202-2 The Development of Air Power II. History of United States Air Force from separate military department status into early 1980's. Highlights the versatility of air power and the changing role of machines, people, and tactics in air warfare. Prerequisite: concurrent enrollment in leadership laboratory.

258-4 Field Training Equivalency. Work experience credit for 101, 102, 201, and 202. This credit will be evaluated by the Department of Aerospace Studies. Prerequisite: satisfactory completion of either the four-week or six-week field training course for AFROTC POC applicants.

301-4 Management and Leadership I. Student relates current management and leadership theory to problems faced by middle managers in a large bureaucracy, the United States Air Force. Examines individual motivation, organization dynamics, performance appraisal, and decision making. Practices writing and speaking styles appropriate to a large organization. Prerequisite: consent of instructor and concurrent enrollment in leadership laboratory. Non-AFROTC members may enroll with instructor consent.

302-4 Management and Leadership II. Continuation of 301. Students examine traditional and modern theories of leadership to define their own roles as leaders. Examine value conflict and conflict resolution for the middle manager. Prerequisite: 301 or consent of instructor and concurrent enrollment in leadership laboratory. Non-AFROTC members may enroll with instructor consent.

401-4 Formulation of Defense Policy. Student explores the dynamics of formulating and implementing American defense policy. Examines international political trends, fundamental causes of inter-state conflict, and domestic and international constraints which restrict the options available to American defense policy makers. Prerequisite: 302 or consent of instructor and concurrent enrollment in leadership laboratory. Non-AFROTC members may enroll with instructor consent. Not for graduate credit.

402-4 Civil-Military Relations. Student analyzes crucial questions about the role and functions of the military officer. Study military law and the law of armed conflict as they apply to the junior officer. Examines contemporary issues including social values and attitudes toward the military. Prerequisite: 401 or consent of instructor and concurrent enrollment in leadership laboratory. Non-AFROTC members may enroll with instructor consent. Not for graduate credit.

African Studies (Minor)

African area studies is available through an interdisciplinary minor, involving courses in anthropology, Black American studies, geography, history, linguistics, political science, and religious studies. Each of these departments has one or more faculty who specialize in Africa and who are interested in assisting students wanting to study about Africa. The requirements for the African studies minor are listed below.

Minor

The African studies minor consists of 15 hours with 9 hours in required core courses and 6 hours of electives.

Required Core Courses: 9 hours selected from Anthropology 470A, Black American Studies 225, 314a,b, History 387a,b, Political Science 465.

Electives: 6 hours selected from any courses not used as part of the core or Geography 365, Linguistics 450-3 (only when African languages are studied), Religious Studies 333, or 2-3 hours of reading courses on Africa sponsored by any of the departments listed above or below.

Suggested related courses which do not count toward the minor are: Anthropology 410h, 470f, Black American Studies 311a,b, Economics 322, History 362a,b, or Political Science 452.

Aging Studies (Minor)

The minor is designed for the student with career interests in the field of gerontol-

ogy and for students who wish to add an understanding of aging to their knowledge. The curriculum provides an interdisciplinary approach to understanding the aging process, basic issues related to aging and the aged, and an opportunity to acquire greater knowledge of gerontological theory and research. A component of the minor is a practicum that will assist the student in developing skills for working with and on behalf of older persons.

The basic objectives of the program are to prepare students for employment in positions of gerontology which do not require graduate education and to prepare students to go on to the graduate level to assume professional leadership in the delivery of services to older people. The minor is structured to complement courses or a major in disciplines such as sociology, social work, recreation, health education, and rehabilitation.

The minor in aging studies consists of a minimum of 22 semester hours which includes ten of core courses, five of approved electives, and seven to ten of practicum. The practicum requires that the student work in a community-based aging agency. Placement may be full-time for one semester or half-time for two semesters. Terms of supervision will be consistent with the student's major area of study.

Students should check with their academic adviser as early as possible in order to plan an orderly progression of study.

<i>Core Courses</i>	10
Ten hours selected from Health Education 440, Psychology 305, Rehabilitation 446, 447; Social Work 463, 466; Sociology 465.	
<i>Approved Electives</i>	5
Five hours selected from Communication Disorders and Sciences 438; Health Education 402, Mortuary Science and Funeral Service 415, 108; Psychology 489; Recreation 475i.	
<i>Practicum</i>	7-10
The field practicum should be consistent with the student's major and career interest. If a practicum is offered in the student's major, the student should register for that practicum which will meet the requirements for the aging studies minor. If a practicum is not offered in the student's major, the student should consult the adviser for the aging studies minor about possible alternative courses to be substituted.	

Other courses which relate to studies of aging are offered and students should check with individual departments. Appropriate substitutions for the aging studies minor may be approved by the adviser for the minor.

Agribusiness Economics (Department, Major, Courses)

Agribusiness economics is a dynamic and challenging field of study serving the needs of farmers as well as businesses in agriculture. Its scope encompasses domestic and foreign agriculture. The department provides a curriculum designed to equip students with 1) professional skills in applied economics and management as related to agriculture, 2) analytical and planning abilities necessary for solving problems, and 3) knowledge and understanding to allow them to perform an effective professional role in a changing economic and social environment.

Agribusiness economics courses are offered in the following fields: farm management, agricultural prices, agribusiness management, agricultural marketing, agricultural finance, international agricultural development, land and resource use, and farm policy.

Students take additional courses in other departments in the College of Agricul-

ture, in the College of Business and Administration, the Department of Economics, and other units of the University.

There are two specializations within the agribusiness economics major. The 40-hour option (agricultural) provides for a broad training in agriculture by requiring 40 hours of courses in the College of Agriculture. The 32-hour option (business-economics) requires the student to take more courses in business and economics and reduces the hours in the College of Agriculture to 32.

For a number of courses taught in the department, there will be an additional charge for field trips, laboratory manuals or supplies.

Bachelor of Science Degree, College of Agriculture

AGRIBUSINESS ECONOMICS MAJOR – 40-HOUR OPTION (AGRICULTURAL)

<i>General Education Requirements and Substitutes</i>	50
GEA 106 and 115 or equivalent	6
GED 101, 102, 153	9
Mathematics 139 and 140 to substitute for GED 107.....	7
<i>Requirements for Major in Agribusiness Economics</i>	55
Courses in Agriculture	40
Agribusiness Economics 204 ¹ , 350 or 360, 351, 362, 381-1, 450 or 461.....	16
Other Agribusiness Economics	7
Animal Science	3
Plant and Soil Sciences	3
Electives in Agriculture including Agribusiness Economics	11
Courses in Business, Economics, and Quantitative Methods.....	15
Economics 214, 215.....	6
Quantitative Methods ²	9
<i>Electives</i>	15
<i>Total</i>	120

AGRIBUSINESS ECONOMICS MAJOR – 32-HOUR OPTION (BUSINESS-ECONOMICS)

<i>General Education Requirements and Substitutes</i>	50
GEA 106 and 115 or equivalent	6
GED 101, 102, 153	9
Mathematics 139 and 140 to substitute for GED 107.....	7
<i>Requirements for Major in Agribusiness Economics</i>	55
Courses in Agriculture	32
Agribusiness Economics 204 ¹ , 350 or 360, 351, 362, 381-1, 450 or 461.....	16
Other Agribusiness Economics	7
Animal Science	3
Plant and Soil Sciences	3
Electives in Agriculture including Agribusiness Economics	3
Courses in Business, Economics, and Quantitative Methods.....	23
Economics 214, 215.....	6
Quantitative Methods ²	9
Business and Economics.....	8
<i>Electives</i>	15
<i>Total</i>	120

¹Agribusiness Economics 204 substitutes for GEB 211.
²Must include 3 hours of statistics and 3 hours of accounting.

Minor

A minor in agribusiness economics is offered. A minor consists of 16 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Courses

204-3 Introduction to Agricultural Economics. Agriculture in local and national economy; distribution; size and organization of the farm business units; policies affecting agriculture.

257-1 to 10 Work Experience. Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

258-1 to 30 Past Work Experience. Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agribusiness Economics. No grade for past work experience. Prerequisite: consent of chairperson.

302-2 Country Living Management and Information. Managing a small acreage as an avocation. Types of decision problems and sources of information.

333-2 Professional Agriselling. Focuses on professional agriselling and the sales process. Topics include different methods of selling, steps and techniques in the selling process, sales ethics, philosophies, and consumer behavior concepts. Opportunities of a career in agriselling are explored.

340-3 Food and Agricultural Policy. An economic analysis of the structure, problems, and alternative public policies of the food production industry. Emphasis on price, income, foreign trade, and development policies. Prerequisite: 204 or consent of instructor.

350-3 Farm Management. Efficient organization and management of a farming operation. Emphasis on crop and livestock selection, management of farm resources, farm budgets and records analysis, and farm leases. Student will incur field trip expenses not to exceed \$5. Prerequisite: 204 or one course in economics.

351-3 Financial Management in Agriculture. Analysis of the capital structure of agriculture and sources of capital. Credit analysis of agribusiness firms using financial statements, firm growth, capital budgeting, and tax considerations. Prerequisite: 204 or equivalent.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

360-3 Cooperatives and Agribusiness Management. Problems and practices in agribusiness operations including forms of organization, alternative organization and structure impacts on decision making, tools of decision making, financial analysis and methods of improving the effectiveness of the marketing system. Prerequisite: 204 or equivalent.

361-2 Distribution in Agribusiness. The nature of agribusiness distribution, opportunities to improve the effectiveness of the distribution system through an understanding of the function involved. Prerequisite: 204 or equivalent.

362-3 Marketing and Pricing Agricultural Products. Institutional arrangements in marketing agricultural products. Market structure, marketing costs, and alternative methods of pricing agricultural products are also examined. Prerequisite: 204 or equivalent.

363-3 Commodity Futures Market. The mechanics of futures market trading, a description of institutions, technical and fundamental analysis, speculation, hedging, spreading, and market risk. Agricultural commodities, exchange rates, and financial instruments are considered.

381-1 to 4 (1, 1, 1, 1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agribusiness economics. Prerequisite: junior standing and consent of department.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agribusiness Economics. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chairperson.

391-1 to 4 Honors in Agribusiness Economics. Completion of honors paper or comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, GPA 3.0 with a 3.25 in major; approval of staff member, department chairperson.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other problems involving agriculture. Prerequisite: junior standing or consent of instructor.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems

related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chairperson.

440-3 Land Resource Economics. (Same as Economics 471.) The use of land as an economic variable in production of goods and services; land markets; public versus private land use conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics or economics credit, or graduate status or consent of instructor.

444-3 Agricultural Development. Analysis of the economic, social, political, cultural, and institutional factors related to economic growth and development in agricultural sector. Framework for evaluating outcome of alternative strategies in agricultural production, marketing, and government policies that affect output, income distribution, and resource use in agriculture and the related agroindustrial complex. Prerequisite: 204.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent, and GED 107.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate appraisal. Application of capitalization, market, and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor.

453-3 Agribusiness Planning Techniques. Application of mathematical programming to agribusiness and farm planning, including enterprise selection, resource allocation, least cost ration formulation, decision making under risk and uncertainty, transportation and location problems. Emphasis placed on modeling problems and interpretation of results. Prerequisite: 350 or consent of instructor.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Examination of agribusiness firm management with emphasis on the management and control of financial resources and the interrelationship between the agribusiness firm and human resource management. Other topics in agribusiness will include effective communication in the management process, business ethics, and workable credit programs for customers. Prerequisite: 351 and 360 or equivalent.

462-3 Advanced Agricultural Marketing. Advanced treatment of marketing issues from both theoretical and practical decision-making perspectives. Marketing margins, intertemporal, and spatial price relationships are reviewed in detail. Historical and current grain and livestock price series are utilized in decision-making exercises. Prerequisite: 362 or equivalent.

Agricultural Education and Mechanization

(Department, Major [General Agriculture], Courses)

The faculty in the Department of Agricultural Education and Mechanization do teaching, research, and service activities in the area of agricultural education, agricultural information transfer and processing, and in agricultural mechanization. The department offers the general agriculture major with four specializations. The primary objectives of this major are (1) to provide broad, basic academic preparation in agriculture for the specializations of the major, or for the undecided agriculture major, by requiring all students to complete an extensive core of agriculture classes, distributed among four of the departments of the College of Agriculture and (2) to provide the quality academic and professional preparation necessary for success in the several career fields of the four specializations. The following statements identify typical career opportunities for persons completing the respective specialization.

Agricultural Education Specialization. In this program a student receives the technical and professional training for certification as a teacher of applied biological and agricultural occupations in secondary schools, or to be employed in industry.

Agricultural Information Specialization. This specialization is intended for those

students who plan to be involved in agricultural education programs in communication, extension, post-secondary educational institutions, and industry.

Agricultural Mechanization Specialization. Agricultural mechanization specialists pursue careers which apply technology to agricultural problems in the areas of power and machinery, structures and environment, electrical power and processing, and surveying for soil and water management.

Agricultural Production Specialization. This specialization provides basic preparation for many agricultural careers in general farming and in production-agriculture related positions in agricultural services, agricultural business and agricultural industry.

Qualified candidates for the Capstone Program are accepted in the department. For a number of courses taught in the department, there will be additional charges for field trips, laboratory manuals, or supplies.

Bachelor of Science Degree, College of Agriculture

GENERAL AGRICULTURE MAJOR

<i>General Education Requirements</i>	46
GED 153.....	(3)
Refer to the respective specializations for other specific General Education Requirements.	
<i>Requirements for Major in General Agriculture</i>	74
Agribusiness Economics 204.....	(3)
Agricultural Education and Mechanization 171, 172, 173, 174, 314.....	7
Animal Science 121, 122.....	4
Plant and Soil Science 200.....	3
Completion of the requirements of one of the four following specializations.....	60
<i>Total</i>	120

AGRICULTURAL EDUCATION SPECIALIZATION

GEA 106, 115.....	(6)
GEB 114, 202, and 301.....	(9)
GEC 213 and one English course.....	(6)
GED 101, 102, 107.....	(9)
GEE 201 and two semester hours of physical education activity courses.....	(4)
Agricultural Education and Mechanization 311a, 311b, and 364, 411 or 414.....	9
Agriculture or Forestry electives.....	14
Professional Education Requirements (See Chapter 3.).....	25
Electives.....	12
Must include at least one additional hour of General Education in order to fulfill certification requirements.	
<i>Total</i>	60

AGRICULTURAL INFORMATION SPECIALIZATION

GEA 106, 115.....	(6)
GEB 108 or 202.....	(3)
GED 107.....	(3)
Agribusiness Economics elective.....	3

Agricultural Education and Mechanization 311a, 364, 418	9
Animal Science elective.....	3
Plant and Soil Science elective.....	3
One additional course in speech and in writing beyond General Education Requirements	6
Agriculture or Forestry electives	5
Electives	31
Total	60

AGRICULTURAL MECHANIZATION SPECIALIZATION

GEA 106, 115	(6)
Physics 203a,b, 253a,b.....	(3) + 5
Mathematics 108, 109	(3) + 3
Agricultural Education and Mechanization: 14 hours selected from 371, 372, 373, 374, 384, 472, 473, 474, 483.....	14
Plant and Soil Science or Forestry.....	3
Agriculture or Forestry electives	8
Electives	27
Total	60

AGRICULTURAL PRODUCTION SPECIALIZATION

GEA 118.....	(4)
GED 107.....	(3)
Botany 200	(3) + 1
Chemistry 140a and 140b	(3) + 5
Select 18 hours with 6 semester hours in each of three of the four following areas	18
A. Agribusiness Economics, including either 350 or 351	6
B. Agricultural Education and Mechanization, including 372 or 384	6
C. Animal Science 315 or 331 plus one production course	6
D. Plant and Soil Science 240 plus one production course	6
Agriculture or Forestry electives	5
Electives	31
Total	60

Minor

A minor in General Agriculture is offered. A total of 16 hours within the department is required. A counselor with the department must be consulted before selecting this field as a minor.

Courses

171-1 Land Measurements. One module of a four module sequence in introductory agricultural mechanization. Basic survey concepts and practices for use in soil and water management. A student may take any or all modules.

172-1 Agricultural Power and Machinery. One module of a four module sequence in introductory agricultural mechanization. Internal combustion engines; tractor power, forces and efficiency; tillage machinery, metering devices, harvesting machinery, capacities of field machinery. A student may take any or all modules.

173-1 Agricultural Electrification. One module of a four module sequence in introductory agricultural mechanization. Fundamentals of electrical flow; measuring electrical energy; circuits; conductors and distribution systems; electric motors; electrical controls. A student may enroll in any or all modules.

174-1 Agricultural Structures and Environment. One module of a four module sequence in introductory agricultural mechanization. Farm building plans; types of construction; building materials and terminology; quantities and costs; heat loss, insulation, solar energy. A student may enroll in any or all modules.

180-1 to 2 (1, 1) Introduction to Agricultural Communications Experience. Study, observation and participation in (a) agricultural news activities, (b) graphic/photographic activities of an agricultural extension communication office. Prerequisite: consent of instructor.

257-1 to 10 Work Experience. Credit for on-campus work experience through a cooperative program developed between the department and the Financial Aid Office. Prerequisite: consent of chairperson. Mandatory Pass/Fail.

258-1 to 30 Past Work Experience. Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agricultural Education and Mechanization. No grade for past work experience. Prerequisite: consent of chairperson.

274-2 Skills in Home Maintenance and Repair. Common home related maintenance and repair activities. Units include safety and developing the home shop; construction skills related to masonry, concrete, plumbing and painting; basic electricity and practical home wiring; and lawn, garden and recreational equipment maintenance and operation.

311-6 (3, 3) Agricultural Education Programs. Nature and scope of the different programs involved in teaching agricultural occupations and methods of developing them. There is a \$10 laboratory fee for each course.

314-3 Agricultural Information Programs. Preparation for an agricultural information internship; an in-depth study into the nature, scope, integral parts, and methods of a total agricultural information program.

318-3 Introduction to Computers in Agriculture. An introductory course about the use and role of computers in agriculture. The major thrust includes a basic understanding and application of micro-computers in agriculture with special emphasis on how to save time, money, and increase efficiency in agriculture.

359-1 to 6 Intern Program. Supervised work experience in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

364-3 Leadership of Youth and Peer Groups. (See Vocational Education Studies 364.)

371-2 Surveying and Planning. Surveying, mapping, land measurement, contouring, planning waterways and terraces and other water control structures used in the development and conservation of forests and agricultural land.

372-3 Agricultural Production Machinery. A course in selection capacities, application, performance, operation, maintenance, adjustments, and calibration of agricultural production machinery.

373-3 Small Engines and Electricity in Agriculture. A basic agricultural power course emphasizing principles, maintenance, and overhaul of small engines. The course also includes electrical circuit planning, practical wiring, a study of electric motors, and basic electrical controls. There is a \$10 additional charge for this course.

374-2 Applied Graphics. Fundamentals of interpreting graphic illustrations, sketching, drawing, and lettering in agriculture, forestry, and landscape design.

380-1 to 2 (1, 1) Agricultural Communications Seminar. Readings, discussions, and activities related to (a) current problems, issues, and practices in agricultural communication, (b) career opportunities, professional development, and ethical standards in agricultural communication. Prerequisite: junior and senior standing and consent of instructor.

381-1 to 4 (1, 1, 1, 1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agricultural education and mechanization. Prerequisite: junior standing and consent of department.

384-3 Agricultural Shop and Construction Processes. Principles of shop organization and safety; tool and equipment utilization as related to hot and cold metals, woodworking, plumbing, and concrete construction. There is a \$15 additional charge for this course.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agricultural Education and Mechanization. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chairperson.

391-1 to 4 Honors in Agricultural Education and Mechanization. Completion of honors paper and comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, GPA 3.0 with a 3.25 in major; approval of staff member, department chairperson.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization. (a) Agriculture education, (b) agriculture mechanization. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in master's degree program. Prerequisite: consent of chairperson.

411-3 Program Development in Agricultural Extension. Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Methods of Agriculture Mechanization. Theory and use of educational materials and devices adaptable to the needs and interests of educators involved in agricultural mechanization laboratories. There is a \$15 laboratory fee for this course.

414-3 Adult Education Procedures, Methods, and Techniques. Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. The application in the professional field setting, of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

418-3 Applications of Integrated Software/Agriculture. (Same as Vocational Education Studies 409.) Design of agricultural or educational applications of integrated software. Spreadsheet, database, wordprocessing, graphic and communications software will be applied to the solution of agricultural problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

472-3 Agricultural Tractors and Engines. Tractor performance and selection, principles of operation, maintenance analysis, and tune-up of multi-cylinder farm type internal combustion engines. There is a \$5 laboratory fee for this course.

473-2 Advanced Agricultural Electricity. Application of electricity to agricultural problems. An emphasis on principles of electrical distribution on the farm and/or the agribusiness operation. Planning the efficient usage of electricity. Prerequisite: 373 or equivalent.

474-3 Advanced Agricultural Structures. A study of design characteristics, construction, methods, and environmental control applicable to agricultural structures. Design construction and environment are considered from the standpoint of the function of the building of an agricultural enterprise. Prerequisite: 384 or equivalent.

483-3 Agricultural Materials Handling, Processing, and Storage. Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 373 or 384 or 473 or 474.

Agriculture (Courses)

Courses

110-3 Agriculture and Society. An introductory and general inquiry about the role and characteristics of farm and off-farm agriculture in our non-agrarian society. To acquaint students with important aspects of the various fields of agriculture and agrarian relationships to our society.

259-2 to 40 Technology in Agriculture. For credit earned in technical or occupational proficiency above the high school level (by departmental evaluation).

323-2 Career Development in Agriculture. Explores the information necessary for a participant to enter into an agricultural career with government, business or industry. Participants will complete a personal skills assessment, a resume, research a prospective employer, complete a mock interview and negotiate employment.

333-2 Agriculture and Forestry Environmental Problems. An overview course directed at the environmental problems of food, fiber, and forest products, production and processing and their potential solutions. A team taught course within the College of Agriculture.

388-1 to 16 (1 to 8 per semester) International Studies in Agriculture. Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: College of Agriculture or department within the college approval.

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation and/or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

450-2 Farming Systems Research and Development. An introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing interactions of these components as well as the physical, biological, and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally.

481-1 International Agricultural Seminar. Discussion of special topics relating to worldwide agricultural development. Prerequisite: consent of instructor.

Agriculture, General (Major)

(SEE AGRICULTURAL EDUCATION AND MECHANIZATION)

Allied Health Careers

Specialties (Program, Specialized Major)

Individual courses of study leading to specialties in allied health career fields are offered by the College of Technical Careers through programs which combine clinical experience with appropriate courses from throughout the University, from community colleges, and from other educational institutions.

Because programs are individually designed, prospective students must consult with the faculty about course and program requirements. Persons interested in the allied health careers specialties program should contact the director of the Division of Allied Health and Public Services.

The program is intended to accommodate non-traditional students. Enrollment is limited by the availability of clinical facilities and supervising faculty; prospective students are urged to begin the admission and advisement process well in advance of the semester in which they wish to begin their studies.

Additional expenses will be incurred to cover the cost of uniforms, liability insurance, travel, laboratory fees, etc.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Allied Health Careers Specialties

GED 101, 107, and 152.	9
Chemistry or Physics	3
Allied Health Careers Specialties 141	4
Electives/support courses	21
Allied Health Careers major will consist of	25
Total	62

Courses

102-4 Introduction to Radiologic Technology and Radiographic Technique. Designed to introduce the student to the medical radiography profession. Students will begin their study of medical terminology, professional behavior, ethics, theory of radiographic exposure, and radiation protection. Prerequisite: admission to program and consent of program adviser.

104-4 Introduction to Medical Assisting. Introduction to the roles and functions of the medical assistant. Emphasis is placed on personal and community health, medical law and ethics.

105-2 Medical Terminology. Introduction to the study of medical language with a working knowledge of the most common word roots, prefixes, suffixes in medical terminology. Emphasis placed on spelling, pronunciation, use of the medical dictionary, vocabulary building, common abbreviations, and charting terms.

112-3 Anatomy and Positioning I. Designed to provide the student radiographer with didactic instruction and laboratory experience which will lead to the development of clinical competencies. It will serve as a foundation for the development of advanced clinical skills as well. The competencies developed are chest, abdomen, upper and lower extremities. Prerequisite: admission to program and consent of program adviser. Laboratory fee: \$50.

114-4 Medical Assistant Clinical Procedures I. To familiarize the medical assistant student with preparing the patient for examination in the physician's office; taking temperature, pulse, respiration, blood pressure, assisting the physician; care and preparation of sterile equipment, methods of sterilization; knowledge and care of instruments and ordering supplies. Prerequisite: 104.

124-2 Disease Conditions. Introduction to the study of diseases and disorders of the various body systems. The disease processes as they relate to bodily functions, their signs, symptoms, and treatment will be covered within the scope of medical assisting. Prerequisite: 105.

125-1 to 4 Survey of Allied Health Related Sciences. Emphasizes the concept of health and the basic needs of people, both in a state of health and as altered by illness. This includes the principles of the physical, biological and behavioral sciences and the knowledge basic to the proper understanding of various allied health procedures. Prerequisite: consent of the program adviser.

132-3 Anatomy and Positioning II. A continuation of 112 designed to further develop clinical skills and competencies through continued didactic and laboratory experience. Positioning competencies developed in this course include radiography of the pelvic girdle, spine, and digestive system. Eight weeks. Prerequisite: 112 and consent of program adviser.

141-4 Introduction to Physiology and Human Anatomy. The student will survey the functions and structures of the nine basic body systems: circulatory, digestive, endocrine, excretory, muscular, nervous, skeletal, reproductive, and respiratory.

202-3 Radiographic Physics. This course will concentrate on general theories of physics as they relate to matter, mechanics, and electricity. It also involves the study of the nature and production of radiation and understanding of the complexity of radiographic equipment and circuitry. Prerequisite: 102 and 112.

203-5 Principles of Respiratory Therapy. Introduction to the state of the art and fundamental principles and devices used in respiratory care practices. Significance is given to indications and contraindications for therapeutic modalities, appropriate equipment selection, airway management, and rehabilitative practices. Five hours lecture per week. Prerequisite: consent of instructor.

204-3 Medical Assistant Clinical Sciences: Radiology and Physical Therapy. Aide-level competencies in radiologic technology and physical therapy will be achieved. Emphasis placed on the use of these skills within a physician's office. Prerequisite: 105.

209-4 Water Analysis I. Overview of major problems related to the waste and drinking water. Introduction to the terminology and basic concepts. Student will be taught the role and importance of sampling in obtaining water quality data. In addition to sampling techniques, the student will learn to evaluate sampling data. Two hours lecture; four hours laboratory. Prerequisite: consent of instructor.

212-2 Special Procedures. Includes the study of contrast producing agents which are used to visualize specific parts of the body. Radiographic technique employed in this type of imaging is highly specialized and will be studied in depth. Prerequisite: 222, 372a and consent of program adviser.

213-1 Respiratory Therapy Exercises. Concepts and theories are applied in a laboratory setting to enhance a working knowledge with respiratory therapy equipment, physical principles, and pulmonary therapeutic techniques. Two laboratory hours per week. A \$25 laboratory fee is required. Prerequisite: concurrent enrollment in 203.

214-4 Medical Assistant Clinical Procedures II. To familiarize the medical assistant with the metric system, basic pharmacology, and preparation of medicine; proper techniques for drug administration, oral, parenteral, and topical; observing and doing EKG procedures; emergency medical care and first-aid and cardiopulmonary resuscitation. Prerequisite: 114.

219-5 Water Analysis II. Student will be taught to analyze all the basic water parameters. Student will develop skill in performing these parameter tests on a variety of sample types, including natural, wastewater, and sludges. Three hours lecture; five hours laboratory.

222-10 Radiography Clinic I. The student is assigned to a selected clinical education center for the entire semester. During this semester, the student radiographer is expected to practice and perfect the professional skills developed the previous semester on campus. The student is supervised by a qualified radiographer and directed in specific experiences designed to meet the objectives for the semester. Prerequisite: 102, 112, 132, 202.

223-2 Patient Care Techniques. Basic principles and essential skills necessary to perform patient care safely and effectively. Skills include surgical asepsis, terminology, communication, patient assessment and positioning, medical ethics, and behavioral problems unique to patients with respiratory illnesses. Two lecture hours per week. Prerequisite: consent of program adviser.

224-6 (2, 4) Medical Assisting Internship. Medical Assisting experience in both front-office and back-office skills will be obtained by placement in a local physician's office under close supervision. (a) Administrative/clerical practice will be gained. (b) Clinical experience as well as those advanced administrative procedures not completed in (a) will be covered. To be taken in conjunction with 234. Prerequisite: 214.

229-3 Solid Waste Management. An introductory field course in solid waste management. Students will be introduced to the day-to-day operations of a sanitary landfill such as what the landfill operator needs to know to perform the duties and what the manager must do to insure proper environmental compliance. Also covered will be aspects of solid waste management from collection to regulations, as well as resource recovery options.

232-4 Selected Systems Radiography. Designed to instruct the student in the anatomy and positioning of the skull, digestive, excretory, biliary, and human reproductive systems. Routine projections common to most health facilities will be described, demonstrated, and then practiced

on a phantom in the energized lab. A \$25 laboratory fee is required. Prerequisite: 222, 372a, and consent of program adviser.

234-3 (1, 2) Medical Assisting Seminar. Students will review patient care, office procedures, medical forms, and all other aspects of the administrative/clinical duties performed in their internship. Specific needs and problems encountered in the individual offices will be discussed. 224a and 234a must be taken concurrently. 224b and 234b must be taken concurrently. Prerequisite: 214.

243-3 Basic Cardiopulmonary Physiology. Physiological functions are presented which include acid-based relationships, gas perfusion, controlling mechanisms of ventilation, ventilation/perfusion relationships, hemodynamics of the cardiopulmonary and renal systems, and blood gas analysis. Three lecture hours per week. Prerequisite: consent of program adviser.

253-1 Clinical Practice I. Orientation to the clinical setting with special emphasis on basic procedures and the role of the respiratory therapy department as part of the health care system. Equivalent to one eight-hour session per week for the semester. Corequisite: 203, 213, 223, 243, and 283.

263-3 Principles of Mechanical Ventilation. Introduces mechanical function of equipment used in continuous and intermittent ventilation of adult, pediatric, and neonatal patients. Indications, contraindications, and hazards of continuous ventilation with significance given to ventilatory management and monitoring techniques. Three lecture hours per week. Prerequisite: 203 and concurrent enrollment in 273.

265-3 Epidemiology of AIDS. Designed to provide the student with a study of the occurrence, distribution, and types of related diseases pertaining to AIDS. Topics will include, but not be limited to, reassessing the issues from 1979 to 1986, current issues and trends, hospital wide management approach, patient confidentiality, legal aspects, public relations, precaution techniques and preventive education, and assessing the future. Designed for continuing education of health care personnel.

273-1 Mechanical Ventilation Laboratory. Emphasis on functional mechanical ventilation characteristics, the assembly of patient circuits, ventilator monitoring, and weaning techniques. Also included is the analysis of arterial blood gas parameters and assessment of the ventilator patient. Two laboratory hours per week. A \$25 laboratory fee is required. Prerequisite: concurrent enrollment in 263.

283-3 Survey of Pulmonary Diseases. The study of the nature and cause of pulmonary diseases which involve changes in structure and function. The etiology, pathogenesis, clinical manifestations, laboratory data, and treatment for major chronic and acute pulmonary disease entities will be presented. Three lecture hours per week. Prerequisite: admission to program or consent of program supervisor.

293-2 Clinical Practice II. Supervised clinical experience which emphasizes fundamental respiratory therapy procedures and introduces the student to critical care management. Equivalent to sixteen clinical hours per week. Prerequisite: 203, 213, 223, 243, 253, and 283.

300-1 to 3 Seminar in Allied Health. A topical seminar conducted by staff members or distinguished guest lecturers on pertinent areas of allied health. Prerequisite: consent of instructor and department.

312-3 Radiographic Pathology. Deals with the etiology and processes of trauma and disease. Emphasis will be placed on radiographic pathology of the body systems and the manifestation of this pathology. Prerequisite: 320, 372b, and consent of program adviser.

313-3 Respiratory Pharmacology. The study of drugs; their origin, nature, properties, and effects on living tissues. Significance is given to drugs which reflect changes on the cardiopulmonary and renal systems. Three lecture hours per week. Prerequisite: 243.

322-4 Cross-Sectional Anatomy and Radiographic Computerization. Includes the study of anatomical structures from the transverse section perspective as compared to the two dimensional perspective. Also included is an introduction to the use of computers in the radiology department. Emphasis will be placed on computer programming for imaging and administrative purposes. Prerequisite: 302, 372b, and consent of program adviser.

323-3 Respiratory Pathophysiology. Discussion of pulmonary complications with obstructive and restrictive disease components and their relationships with pulmonary function studies and blood gas analysis. Emphasis is given to patients with complications directly or indirectly affecting respiration. Three lecture hours per week. Prerequisite: 243 and 283.

332-10 Radiography Clinic II. The student returns to the clinical education center for this semester. The student radiographer is expected to continue to practice previously developed professional skills and to assume performance of additional examinations studied during the previous semester. This semester of clinical study includes proficiency testing which, when completed, will allow the student to assume full responsibility for the examination in the future.

342-2 Radiation Biology, Therapy, and Nuclear Medicine. Designed to instruct the student radiographer in the principles and terminology of radiobiology. Emphasis will be placed on how these principles relate to radiation protection. Also included are brief introductions to nuclear medicine and therapy. Prerequisite: 302, 372b, and consent of program adviser.

343-2 Neonatal/Pediatric Respiratory Care. Respiratory care of the neonate and pediatric patient is presented with special emphasis on physiology, pulmonary complications, and related gen-

eral and intensive care procedures. Also included is neonatal transportation and assessment of the sick newborn and child. Two lecture hours per week. Prerequisite: 243.

352-4 Special Imaging Modalities. This course provides the student with the knowledge and understanding relevant to the function, operation, and application of the various techniques used in image production.

353-8 Clinical Internship. Integration of clinical practice and knowledge for the advanced student. Students receive clinical experience in neonatal and adult intensive care units with an emphasis in ventilatory management. Students should plan to attend a major medical institution off campus for sixteen weeks in the fall. Prerequisite: 263, 293, 323, 343, and 363.

362-4 Radiography Clinic III. Last clinical course of the program. Students are expected to demonstrate knowledge and competency of radiographic examinations listed in categories one through nine. Image evaluations will be performed on a weekly basis by the clinical instructor as well as behavioral/attitudinal ratings. Prerequisite: 312, 322, 342, 352.

363-3 Pulmonary Evaluation and Monitoring. Emphasis on diagnostic and monitoring principles used in determining clinical evaluation of patients. Cardiopulmonary assessment is presented utilizing electrocardiography, chest roentgenology, laboratory tests, and physiologic shunt and deadspace calculations. Three lecture hours per week. Prerequisite: 283.

372-6 (2,2,2) Radiographic Film Critique. (a) Concurrent with clinical study, the student will participate in the technical review of the films taken fulfilling introductory objectives set for this course. Prerequisite: 102, 112, 132, 202. (b) The student will continue to develop abilities to review an examination from a technical standpoint utilizing more advanced knowledge to fulfill course objectives. Prerequisite: 212, 232. (c) Final competencies in the technical production and review of the finished radiograph are determined and evaluated. Also included is a review of the knowledge learned in the program. Prerequisite: 312, 322, 342, 352 or consent of program adviser.

373-4 (2, 2) Clinical Practice III. (a) Supervised clinical experience emphasizing diagnostic and monitoring procedures used in evaluating patients with cardiopulmonary complications. (b) Research seminar: a faculty supervised research project identifying rural clinical problems relevant to respiratory therapy is completed by the student. Prerequisite: 353.

375-3 Advanced Modalities: Diagnostic, Therapeutic and Prosthetic. A course designed to provide the student with a study of advanced instrumentation and techniques involved with the Allied Health Sciences. Topics will include an introduction to the modality, theoretical and physical principles, and hands-on instruction of each instrument/technique. Prerequisite: junior standing or licensure/certification.

Animal Science (Major, Courses)

The animal science program is a part of the Department of Animal Science, Food and Nutrition. SIUC's internationally known animal science faculty is dedicated to teaching and to student development. Animal Science teachers at SIUC represent the range of topics in animal agriculture. There are specialists in animal genetics, reproductive physiology, nutrition and management for each of the species, international food programs, veterinary medicine, and pet care. The animal science teachers bring their exciting experience with them into every class they teach. The combination of the visionary and the practical makes a strong and vital faculty for students who want the best professional education they can get.

The department offers three specializations leading to a B.S. degree: production, equine science, and science and pre-veterinary medicine. In addition, the department offers a two-year and a three-year curriculum in pre-veterinary medicine. The latter allows qualified students to transfer to accredited colleges of veterinary medicine prior to receiving the Bachelor of Science degree in Animal Science.

Most of the students' agriculture courses for the major will be in animal science, but students can also select courses from agronomy, horticulture, forestry, agricultural education, microcomputers in agriculture, agricultural mechanization, agribusiness and economics, and farm management. Other classes help the student meet basic University requirements in a way that will strengthen their abilities to think, understand, and communicate about the social, physical and natural sciences important to animal scientists. Other departments offer supplemental coursework in physiology, genetics, nutrition, animal behavior, and other topics that many animal science students find valuable.

The animal science major is backed up with extensive facilities for several species of livestock, and every student has the opportunity to get involved in work, research, or observation at the University Farm. The core of our animal science program is the 2,000 acre farm system, which includes special centers for beef, dairy, horses, and swine.

Hundreds of distinct occupations exist within the animal agriculture field. There are opportunities in animal production work at farm operations, ranches, feedlots, stables, zoos and kennels. There are opportunities in feed and meat-packing industries, equipment suppliers, government and international agencies, veterinary medicine, and numerous other supporting industries that serve producers. Within each of these areas, animal science graduates are employed in such jobs as sales, service, education, communication, finance and business management.

There may be extra expenses for field trips, manuals or supplies in some courses.

Bachelor of Science Degree, College of Agriculture

<i>General Education Requirements</i>	46
GEA: See requirements of the specialization	
GED 153 required; mathematics as required for specialization	
<i>Requirements for Major in Animal Science</i>	74
Core Requirements	32-34
Animal Science 121, 122, 210 or 311a, 215, 315, 331, 332, plus one course from 409, 420, 430, 465, 480, or 485	21-23
Agribusiness Economics 204 to substitute for GEB 211	(3)
Agriculture electives, excluding Animal Science	5
Curriculum and Instruction 199	1
Microbiology 301	4
Physiology 208	1
Specialization Requirements	40-42
Fulfill the requirements of one of the following specializations	
<i>Total</i>	120

PRODUCTION SPECIALIZATION

Substitute Chemistry 140a,b for GEA 106	(3) + 5
GEA 118 or substitute Biology 306, 308, or 309 for GEA 115 or Botany 200 for GEA 117	(3) + 0-1
GED 107	(3)
Animal Science 381 plus Animal Science electives including one additional 400-level course	6-8
Electives	26-31
<i>Total</i>	40-42

EQUINE SCIENCE SPECIALIZATION

Substitute Chemistry 140a,b for GEA 106	(3) + 5
GEA 118 or substitute Biology 306, 308, or 309 for GEA 115	(3) + 0-1
GED 107	(3)
Animal Science 219, 409, 419, 481 and either 490a or b ...	(0-4) + 12-16
Electives	18-25
<i>Total</i>	40-42

SCIENCE AND PRE-VETERINARY SPECIALIZATION

Substitute chemistry for GEA 106; physics for GEA 101, biology

for GEA 115 and mathematics for GED 107	
Chemistry 222a,b, 344, 345, 346, and 450.....	(3) + 16-17
Physics 203a,b and 253a,b.....	(6) + 2
Biology—8 semester hours required.....	(3) + 5
Mathematics 108 and 109.....	(3) + 3
Animal Science 381 plus Animal Science electives including one additional 400-level course.....	6-8
Electives.....	5-7
Total.....	40-42

Minor in Animal Science

The minor in animal science requires 16 semester hours, of which at least 12 must be earned at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Minor in Equine Studies

The minor in equine studies requires 16 semester hours, of which at least 12 must be earned at Southern Illinois University at Carbondale. Courses required are 219, 220, 315, 409 and 331 or Physiology 310, with additional hours to reach the 16 hour total selected from 419, 431, or other courses in equine studies approved by the department. The minor in Equine Studies is not awarded to students who have a major in Animal Science.

Courses

- 121-3 Science of Animals that Serve Mankind.** A general overview of dairy, meat animals (swine, beef, sheep), poultry, and horse industries with emphasis on how meat, milk, and poultry products are produced and distributed. The general application of genetic, physiologic, and nutrition principles for the improvement of animal production to further serve people. Prerequisite: concurrent enrollment in 122.
- 122-1 Production and Processing Practices of the Animal Industry.** Livestock facilities, demonstration of management practices of animals for human use and the processing of animal products. Can be taken without concurrent enrollment in 121.
- 123-1 Practicum in Animal Production.** A set of practical experiences at each livestock center and a proficiency examination. Required of all majors in animal science before graduation. Mandatory Pass/Fail.
- 201-3 Care and Management of Pets.** Principles and practices of proper selection, feeding, and care of companion animals. Emphasis is placed on the dog and cat but other species are considered. Nutrition, health care, training, and reproduction are discussed.
- 210-3 Meat, Poultry and Milk Products as Related to the Consumer.** Processing and distribution including inspection, grading, processing methods and merchandising as well as selection and preparation including pricing, storage or preservation, cooking, serving, and the contribution to a well-balanced diet of meat, poultry, and milk products. Field trip.
- 215-2 Introduction to Nutrition.** (Same as Food and Nutrition 215.) An up-to-date study of basic principles of animal nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of livestock nutrition in today's animal environment.
- 219-2 Introductory Horse Management—Lecture.** Designed for beginning science student or non-science majors with an interest in horses. Class provides non-technical information on topics related to horse selection and care.
- 220-2 Introductory Horse Management—Laboratory.** A practical lab addition to 219 providing individual instruction in horse care and handling for students with a limited past exposure to horses. Provides an opportunity for hands-on experience in the fundamentals of horse handling such as grooming and hygiene, exercising, and health care, Advancement depends wholly upon the individual's experience, confidence, and motivation.
- 257-1 to 10 Work Experience.** Credit given for on-campus work experience related to the student's major area of specialization as developed through the department and the Financial Aid Office. Only 10 hours of credit may be taken in 257, or in any combination with 258. Prerequisite: consent of chairperson. Mandatory Pass/Fail.
- 258-1 to 10 Prior Work Experience.** Credit given for work experience related to the student's major area of specialization prior to University entrance. Only 10 hours of credit may be taken in 258, or in any combination with 257. No grade for prior work experience. Prerequisite: consent of chairperson.

311-4 (2, 2) Breeds, Classes, Grades, and Selection of Farm Animals and Poultry. (a) Discussion of breeds and classes of livestock, dairy and poultry; grading and selection of breeding and market animals and their carcasses of products. (b) Competitive judging and selection of livestock, dairy, or poultry. Field trips required. Participation on SIUC judging team is not a required part of this course. Must be taken in a,b sequence. Prerequisite: 121 recommended.

315-3 Feeds and Feeding. Principles of applied animal nutrition. Ration formulation to meet specific nutrient needs of livestock. Feedstuff evaluation, including cost will be discussed. Prerequisite: GED 107.

331-4 Physiology, Growth, and Development of Farm Animals. Physiology is presented using the organ system approach. Growth and development of meat animals with emphasis on bone, fat, and muscle tissue, and the factors which influence their relative rate of formation.

332-3 Animal Breeding and Genetics. The application of basic principles of genetics and breeding systems to the improvement of farm animals and poultry. Prerequisite: 121 or biology.

337-3 Animal Hygiene. Principles of prevention and control of infectious, nutritional, and parasitic disease of farm animals. Prerequisite: a course in chemistry.

359-2 to 6 (2 to 3, 2 to 3) Intern Program. Work experience program in animal production units and agricultural agencies of the government or agribusiness. Prerequisite: junior standing and consent of chairperson. Mandatory Pass/Fail.

380-1 to 6 Field Studies in Foreign and Domestic Animal Agriculture. A travel course to observe and study the operation and management of farms, ranches, and feedlots as well as agribusiness firms supporting animal production such as food processors, feed manufacturers, and housing or equipment companies in either the United States or foreign countries. A written report is required. The travel fee charged to the student will depend on the nature and the length of the course.

381-1 Animal Science Seminar. Discussion of problems and recent development in animal science. Prerequisite: junior-senior standing.

390-1 to 4 Special Studies Animal Science. Assignments involving research and individual problems. Prerequisite: juniors and seniors only and consent of chairperson. Mandatory Pass/Fail.

409-4 Equine Science. Designed for students interested in the more scientific aspects of equine physiology and management. The class will take a more advanced look at anatomy and physiology of the systems of the equine and consider how they relate to selection, use, and management. Lecture and laboratory. Prerequisite: 219, 220, 331 or Physiology 210, or equivalent.

410-3 Meat Science. Chemical, physical, and nutritional properties of meat and meat products. Topics covered include muscle function, tissue growth and development, aspects of post mortem change including rigor mortis, meat microbiology, methods of analysis, and quality control. Prerequisite: 210, Chemistry 140 or equivalent, and a course in physiology.

414-2 Animal Feed Quality Control. Laboratory procedures for nutrient determinations used in animal feed quality control. Prerequisite: Chemistry 140 or equivalent.

415-3 Monogastric Nutrition. Advanced principles and practices involved in meeting nutrient requirements of monogastric animals. Prerequisite: 215 and 315.

416-3 Ruminant Nutrition. Practical knowledge gained of problems associated with digestion, absorption, and metabolism of nutrients as related to domestic ruminants, horses, and other pseudoruminants. Prerequisite: 215 and 315.

419-3 Stable Management. Designed for the advanced equine science student planning a career in the horse field. Teaches in-depth management techniques on an applied basis. Students will have the opportunity to learn both theory and application of management in one course. One hour lecture, four hours laboratory. Prerequisite: 219, 409, and consent of department.

420-4 Commercial Poultry Production. Principles and practices of management of broilers, layers, and turkeys as adapted to commercial operations. Field trip. Offered fall semester of even numbered years. Prerequisite: 315 or consent of instructor.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science.

430-4 Dairy Cattle Management. Application of the principles of breeding, physiology, and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology of Domestic Animals. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones; reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination, pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

432-2 Quantitative Inheritance of Farm Animals. A review of the genetic principles underlying changes in animal breeding population; interpretations of gene frequency, heritability, and genetic correlations; application of selection and breeding systems in farm animals. Prerequisite: 332.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control;

milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Offered only fall semester of odd numbered years. Prerequisite: course in physiology.

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Production. Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs, and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

480-3 Sheep Production. Breeding, feeding, and management of sheep. Field trip. Prerequisite: 315.

481-1 Current Topics in Equine Science. Seminar exploring selected topical concerns in the horse industry. Students will prepare and present an individual seminar on current scientific work in the equine area. Such areas of study might include but are not limited to behavior, nutrition, reproduction, management, veterinary advances, and general and exercise physiology. Prerequisite: 419.

485-4 Beef Production. Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

490A-6 Practicum-Horse Training. Provides students demonstrating a career-goal interest in training and showing an opportunity for diversified experience in those fields. Students will be assigned one or more horses to break, train, promote, and show. All responsibility for an animal's welfare, preparation, records, etc., belongs to the student. Students may not receive credit for both 490a and 490b. Not for graduate credit. Prerequisite: 409, 419, senior standing, and consent of instructor.

490B-6 Practicum-Horse Breeding. Provides advanced instruction in breeding techniques and breeding farm management for students demonstrating a career-goal interest in horse breeding. Student will be assigned a stallion and a band of mares and is responsible for promotion of, breeding, management, and records of all assigned animals. Students may not receive credit for both 490a and 490b. Not for graduate credit. Prerequisite: 409, 419, 431, senior standing, and consent of instructor.

Anthropology (Department, Major, Courses)

Anthropology is the study of humans and their cultures in terms of universal features, variability, and development through time. The major subdivisions are socio-cultural anthropology, linguistics, archaeology, and physical anthropology. The student is expected to gain a broad background in all subfields, after which the options of further general study or specialization are available. Students are encouraged to supplement their anthropological studies with work in other social sciences, and where appropriate in biology, earth sciences, humanities, mathematics, or other areas.

Most professional anthropologists find employment as teachers and researchers in colleges and universities. However, a major in anthropology provides the students with a unique liberal arts background bridging the humanities, social, earth, and biological sciences, which leads to many other professional opportunities outside of teaching and research.

An anthropology major is required to take Anthropology 300A, B, C, D, and one each of the 310 and 410 course series. No more than six hours of Anthropology 460 and no more than six hours of 200-level course work may be applied to the major. Those students interested in advanced degrees will be advised to take Anthropology 400A, B, C, D (total 12 hours) with the remainder of the hours as electives. It should be noted that graduate departments often require foreign language and mathematical background beyond that required by the undergraduate program. Those students not interested in advanced study will be advised on an individual basis reflecting their own particular interests and aspirations.

Students with exceptional scholarly promise may be invited into the depart-

mental honors program, which includes an honors seminar and the writing of an honors thesis under the direction of a departmental faculty member.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements</i>	(4) + 8-14
<i>Requirements for Major in Anthropology</i>	32
Anthropology 300A, 300B, 300C, and 300D required, and an additional nine hours of 310 series or 400-level course work in anthropology.	
<i>Electives</i>	28-34
<i>Total</i>	120

Minor

A minor in anthropology consists of at least 15 hours including at least two of the four courses: 300A, 300B, 300C, 300D, and a minimum of three of the remaining nine hours of 310 series or 400-level courses.

A minor in anthropology for students interested in museum studies may be earned by taking a designated series of museum-oriented courses offered by the Departments of Anthropology, Geology, History, and the School of Art. Required courses for the minor are drawn from the following: Anthropology 450a,b; Art 207, 447; Geology 445; and History 497, 498.

Courses

201-3 Archaeology of Illinois. A survey of prehistoric cultural development, its causes and consequences, as seen through the archaeology of Native American cultural development in the Illinois region, from the earliest foragers to European contact.

203-3 World Archaeology: Humans Before History. Survey of the development of human societies around the world up to the beginnings of agriculture and city life. Groups such as the Aztecs, Incas, Egyptians, and early Chinese and Indian cultures will be discussed.

221-3 The Anthropology of Sexual Behavior. Current issues of sexism and gender roles are brought into focus by a study of patterns of primate and human sexuality. Attitudinal and cultural distinctions between men and women are related to need and pressures on a cross-culture basis.

225-3 Separate Realities. Anthropological approaches to altered states of consciousness. A survey of popular and scholarly works on altered states and the functions of these states in societies, including our own.

231-3 Folklore and Modern Life. The folklore of a culture influences both the unconscious and conscious actions of people in subtle ways and each study helps to account for both the good and the bad which we see in ourselves and in others. The course introduces the student to the study of folklore and serves to emphasize the importance of the study of folk beliefs and their role in understanding our and other contemporary societies.

241-3 Slaves and Slavery in New World Societies. Focuses on slavery and slave systems in New World societies from a comparative historical and social anthropological/sociological perspective.

251-3 Anthropology Through Science Fiction. Basic concepts of anthropology are used to interpret the imaginary worlds of science fiction. Fictional alien cultures are examined to see how features of human biology, language, social organization, technology, etc. are patterned after or are different from known human cultures.

261-3 Issues in Popular Anthropology. A presentation of issues of popular interest which can be clarified through anthropological examination. Among these are the issues of creationism versus evolution, ancient astronauts, the Abominable Snowman, the lost civilization of Atlantis, primitive languages and peoples, and the diversity of sexual practices. The course traces the origins of these issues and beliefs as aspects of American popular culture.

300A-3 Introduction to Biological Anthropology. An overview of human biology, including genetics and evolutionary theory, the fossil record, nonhuman primate behavior and evolution, and the concept of race and biological differences in modern humans.

300B-3 Introduction to Anthropological Linguistics. Presents language as a facet of cultural anthropology with emphasis on the methods of linguistic analysis, language history, the functions of language in social and cultural behavior, and the variety of ways different languages classify and organize reality. Open to both majors and non-majors.

300C-3 Introduction to Archaeology. Covers basic theories and methods used in archaeology to study life-styles of past cultures through an examination of their tools, house and community

remains, and art works. Includes methods of excavation, dating techniques, and other methods of analysis. Open to both majors and non-majors.

300D-3 Introduction to Social-Cultural Anthropology. An exploration of current anthropological theories and methods for understanding human cultures from a comparative perspective; also examines human institutions such as religion, politics, and family cross-culturally. Although non-Western societies are emphasized, comparisons with our own are treated as well.

301-3 Language in Culture and Society. The problem of the uniqueness of human language and how it fits into culture and society. The origin and development of language. Topics covered include animal and human communication, language and world view, and the meaning of meaning.

302-3 Indians of the Americas. A region by region survey of the native Americans of North, Middle, and South America. Emphasis is on lifeways: ecology and environment, subsistence, economy, social organization, religion, art, music, and other aspects of culture. A brief introduction to pre-history and language is included.

303-2 Native American Art and Culture. A survey of native American art from traditional through contemporary forms, with a focus on the changing role that art has played in native American culture.

304-3 Origins of Civilization. A study of complex environmental and cultural factors that led to a rise and fall of early high-cultures. The course will concentrate in alternate years on the Old World (Africa and Euro-Asia) and the New World (North, Middle, and South America).

310-3 to 24 (3, 3, 3, 3, 3, 3, 3, 3) Introduction to Peoples and Cultures. An introduction to the prehistory, cultural history, and modern cultures of peoples in the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) South America, (f) Near East and North Africa, (g) North America, (h) Oceania. No prerequisite.

320-3 Human Growth, Development, and Adaptation. The effect of environmental and genetic factors on human development will be examined. Certain classical problems will be studied as they relate to human adaptation, e.g. the physiology of high altitude adaptation, and human thermoregulatory adaptations. Prerequisite: 300A or consent of instructor.

330-3 Biological Foundations of Human Behavior. Discussion of human sexual behavior, the opposition of violence and aggression with cooperative behavior, and the anthropological background of facts concerning whether these behaviors are driven by biological (instinctual) or purely cultural factors.

340-3 Coping in Other Cultures. Applications of anthropology to practical, daily problems faced by professionals working in other cultures. General exploration of the common misconception that one's own culture is the best and only way to get things done, and that one's own language is the best means of communication. Case studies of professionals coping in other cultures. No prerequisite.

360-3 American Culture. A study of the United States and its subcultures, using anthropological concepts and description to provide a focus for American students on their own culture and an understanding for foreign students of the complexities of American behavior, values, and social structure. Examines subcultures defined by race and ethnicity, immigrant assimilation and culture contact, and experiments in alternative living.

370-3 Anthropology and Contemporary Human Problems. The contribution of anthropology to an understanding of contemporary human problems of environmental crisis, world hunger and overpopulation, social stratification and internal order, war and international order. The approach is cross-cultural drawing on knowledge of all societies and cultures in space and time. Anthropological fundamentals are introduced at the beginning.

376-2 to 8 Independent Study in Classics Program.

400A-3 Theory and Method in Physical Anthropology. Current topics in biological evolution and variation, including the theoretical and methodological background to each. Topics will be drawn from the four major areas of physical anthropology: genetics and evolutionary theory, primate studies, human fossil record, and human variation. Prerequisite: 300A for undergraduates or consent of instructor.

400B-3 Theory and Method in Linguistic Anthropology. History of linguistic anthropology. Description and analysis of languages. Origin, development, and acquisition of language. Theory of symbolic systems. Human and animal communication. Historical linguistics. Languages in culture and society. Prerequisite: 300B for undergraduates or consent of instructor.

400C-3 Theory and Method in Archaeology. Overview of the currents and controversies in anthropological archaeology in their historical and theoretical context. Topics include history of archaeological theory, explanation in archaeology, limitations of the archaeological record, and archaeological approaches to the study of cultural variation. Prerequisite: 300C for undergraduates or consent of instructor.

400D-3 Theory and Method in Sociocultural Anthropology. Overview of contemporary approaches to social and cultural research in anthropology. Attention is given to such topics as structural functionalism, cultural ecology, dialectical and cultural materialism, ethnohistory, sociobiology, neo-Darwinism, symbolism, and cross-cultural comparison. Problem areas investigated include kinship, social structure, comparative economics, political organizations, religion,

culture and personality, environmental adaptation, cultural change. Prerequisite: 300D for undergraduates or consent of instructor.

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and cultural change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in social groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technical society will be considered.

406-3 Conservation Archaeology. The method and theory of archaeology in relationship to local, state, and federal laws regarding the protection and excavation of antiquities. Emphasis is on problem oriented survey and excavation, as well as the preparation of archaeological contracts and the writing of reports to satisfy statutes involving environmental concerns. Prerequisite: 300C or 400C or consent of instructor.

409-3 History of Anthropology. The development of anthropological thought in the four subfields of the discipline (sociocultural, physical, linguistics, archaeology). Emphasis is on concepts, ideas, and work and major practitioners of the early 19th to the middle of the 20th centuries, and on the major trends that have led to specialties found in anthropology today. The present status of anthropology as an academic discipline is briefly explored, and an attempt is made to assess the future of the discipline in terms of intellectual and practical concerns.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator, and others who are attempting to guide change in the life ways of others in Western culture and the third world. Prerequisite: none. 300D recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American-non-American systems, and the teaching of anthropology. Prerequisite: none. 300D recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300D recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon nonliterate societies. Analysis of motifs, taletypes, themes and other elements; comparisons between nonliterate and literate groups. Prerequisite: none. 300D recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300D recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of "Great Religions". Prerequisite: none. 300D recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300D recommended for undergraduates.

410H-3 Ethnomusicology of Oceania, Asia and Africa. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Oceania, Asia, and Africa.

410I-3 Ethnomusicology of Middle East, Europe and the New World. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300D recommended for undergraduates.

410K-3 Ecological Anthropology. An examination of the relationship of past and present human populations in the context of their natural and social environments. Prerequisite: 300C and 300D or equivalent.

425-3 Cognitive Anthropology. The theory of culture as cognitive organization is explored. Among the topics are: Formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the "new ethnography."

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300C or 400C or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300C or 400C or consent of instructor.

430C-3 Archaeology of the Southwest. Detailed study of the early cultures of the Southwest

with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430D-3 Archaeology of the Old World. Detailed study of the early cultures of the Old World with emphasis on the evolutionary cultural development of the area. Prerequisite: 300C or 400C or consent of instructor.

430E-3 Archaeology of the Eastern Woodlands. Detailed study of the early cultures of the North American Eastern Woodlands with emphasis on the evolutionary development of cultures. Prerequisite: 300C, 302, 400C or 430A or consent of instructor.

440A-3 Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300A or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300A or consent of instructor.

441-6 (3, 3) Laboratory Analysis in Archaeology. (a) Emphasizes methods of analysis in archaeology as part of a larger research design created by the student. May be taken independently or as a follow-up to 496. (b) Emphasizes technical methods of the physical and natural sciences in archaeological analysis, as used in environmental reconstruction, dating, and for the investigation of production and exchange.

442-1 to 12 Working with Anthropological Collections. Management, curation, and analysis of anthropological collections as part of a research project created by the student. May be taken independently or as a follow-up to 450, 495, 496, or 597.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300A, 400A or consent of instructor.

450-6 (3, 3) Museum Studies. A detailed study of museum operation to include (a) methodology and display and (b) administration, curation, and visits to or field work with area museums. Practical museum work will be stressed in both (a) and (b) and (a) must be taken before (b).

455-3 to 15 (3 per topic) Topics in Physical Anthropology. Intensive study of one of the major subfields within physical anthropology. (a) Dental anthropology. (b) Laboratory methods. (c) Primate behavior and evolution. (d) Quantitative methods. (e) Epidemiology. Prerequisite: 300a or consent of instructor.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 24 People and Cultures. A survey of the prehistory, cultural history, and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania. Prerequisite: a basic acquaintance with geography and history of the areas.

480-3 Honors Seminar. Topics to be arranged by agreement of participating faculty and students. Not open to graduate students. Prerequisite: consent of department.

490-3 Field Methods and Analysis in Linguistic Anthropology. Includes theoretical background and a project in the linguistic aspects of culture. Prerequisite: 300B, 301, or 400B.

495-6 to 8 Summer Ethnographic Field School. An eight-week field research training program in Southern Illinois communities. Students will attend seminars on campus and in the field, but the greater part of the time will be spent engaging in continuous team research under the direction of the faculty members involved in the program. Some form of cooperative living arrangement will be organized. The program is open to advanced undergraduate and graduate students. Prerequisite: consent of instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

499-3 Honors Thesis. Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department.

Aquatics (Minor)

(SEE PHYSICAL EDUCATION)

Architectural Technology (Program, Major, Courses)

The continuing growth of the architectural profession requires large numbers of

technicians whose training has provided a firm foundation for supporting roles in today's profession and the basis for skill development in emerging activities. The architectural technology program offers this training in a curriculum designed to produce the skills in highest demand in the market for newcomers to the profession.

Intelligent, motivated students with mathematical, artistic, or manual skills will be most successful in the program. Students are required to provide their own drafting equipment and normal supplies.

Architects who hold professional degrees and have many years of professional and teaching experience constitute the faculty. The program has been approved by the American Institute of Architects.

An advisory committee, whose members are practicing architects, assists the faculty in maintaining a current curriculum. The advisory committee members are chosen for their understanding of today's needs in the profession and their interest in education.

Graduates will have an understanding of the design profession, design and production processes, and other components of the construction industry. Their usual point of entry into the profession is as drafting technicians producing construction drawings. As they gain experience they may develop capabilities to accept more responsibility in such areas as project coordination, specification writing, estimating, various types of engineering, construction inspection, architectural design, and presentation.

There are additional opportunities in the construction industry with manufacturers, material suppliers, contractors, and developers.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Architectural Technology

GED 101, 102, 153	9
Technical Careers 105a,b, 107a,b	8
Architectural Technology 111, 112, 113, 124, 125, 214, 215, 216, 217, 219, 220, 224, 225, 226, 229 each with a minimum grade of C	57
Total	74

Courses

111-6 Architectural Drafting. Basic principles in the geometry of architectural drawings to include orthographic projection and pictorial drawing. Lecture: three hours. Laboratory: six hours. Prerequisite: major in architectural technology or consent of coordinator of architectural technology.

112-3 Architectural Graphics. Materials, methods and techniques in architectural graphics through sketching and drawing in various black and white media, theory and use of color, and delineation in various color media. Lecture: one hour. Laboratory: five hours. Prerequisite: major in architectural technology or consent of coordinator of architectural technology.

113-3 Architectural History. The study of the influences and development of architectural from prehistoric through the contemporary period. In particular, the study of structure, aesthetics, and language of architecture. Prerequisite: Major in architectural technology or consent of coordinator of architectural technology.

124-5 Architectural Drawings I. Introduction to basic materials and components used in contemporary construction. A survey of manufacturing methods, available sizes, performance characteristics, quality, finishes and applications. Usage of vendor's brochures and standard references. Preparation of working drawings in light wood frame construction to practice current procedures, dimensioning, notation, and design correlation, with standard and creative detailing. Lecture three hours. Laboratory six hours. Prerequisite: 111 and major in architectural technology or consent of coordinator of architectural technology.

125-4 Architectural Design I. Problem solving in architectural design with emphasis on design

elements and principles, human scale, methods and procedures, composition, and presentation. Architectural projects of relatively small scope and simple nature. Lecture: one hour. Laboratory: five hours. Prerequisite: 111, 112, and 113 and major in architectural technology or consent of coordinator of architectural technology.

214-6 Architectural Drawings II. Continuing study of materials and practices in document preparation for non-complex buildings using masonry and reinforced concrete construction. Investigation and use of local, state, and federal codes regulating health and safety. Construction techniques relating to criteria or permanence, low maintenance and budget requirements. Working drawings for two-level, light commercial/industrial buildings. Lecture: three hours. Laboratory: six hours. Prerequisite: 124 and major in architectural technology or consent of coordinator of architectural technology.

215-4 Architectural Design II. Continuing study of architectural design with application of principles and procedures for projects of increased scope and complexity, with attention to research, site planning, and comprehensive feasibility. Presentations in various media. Lecture: one hour. Laboratory: five hours. Prerequisite: 125 and major in architectural technology or consent of architectural technology coordinator.

216-4 Architectural Structures I. Elementary study of forces and force systems using graphic and analytic methods. Basic structural concepts: reactions, shear and moment diagrams, axial, eccentric and combined loading on beams and columns. Review of principles used in the design of floor and roof structural systems: load analysis, acting and resisting stresses. Analytic and graphic truss stress analysis. Lecture: four hours. Prerequisite: Technical Careers 105a and b, 107a and b, and architectural technology major or consent of architectural technology coordinator.

217-2 Architectural Systems. Basic principles of mechanical and electrical equipment of buildings. Familiarization with water supply and sanitation systems. Fundamentals of properties of heat, air conditioning, and purification systems. Fundamentals of illumination and electrical systems. Fundamentals of acoustics and materials for reflection, attenuation, and isolation. Lecture: two hours. Prerequisite: Technical Careers 105a, b, 107a, b, and major in architectural technology or consent of architectural technology coordinator.

219-2 Architectural Site Planning. Fundamentals of topography, site planning, building location, preparation of detailed site drawing, introduction to use of surveying equipment. Lecture: two hours. Prerequisite: 124 and major in architectural technology or consent of architectural technology coordinator.

220-2 Architectural Specifications. Function of specifications as a contract document. The relationship of specifications to architectural drawings. Organization and format. Content of various sections. Lecture: two hours. Prerequisite: concurrent with 224 and major in architectural technology or consent of architectural technology coordinator.

224-6 Architectural Drawings III. Continuing study of materials and practice in document preparation for construction of multi-floor buildings of a more complex nature. Contemporary materials, components and systems. Steel and concrete framing systems using short and longspan steel joists, steel pans, pre- and post-tensioned precast components. Correlation with electrical, mechanical, and structural work. Lecture: three hours. Laboratory: six hours. Prerequisite: 214, 219, and major in architectural technology or consent of architectural technology coordinator.

225-4 Architectural Design III. Continuing application of architectural design principles and procedures to projects of higher factor of usage, or greater scope and complexity of function and circulation. Continuing practice in presentation with various media. Lecture: one hour. Laboratory: five hours. Prerequisite: 215 and major in architectural technology or consent of architectural technology coordinator.

226-4 Architectural Structures II. Continued study of structural framing systems. Investigation of materials and design of structures through selection of the safest and most economical shapes to satisfy the requirements for structural members commonly used in building construction. Formulation and use of structural design procedures, with regard to material limitations and code requirements, and the selection of structural members. Lecture: four hours. Prerequisite: 216 and major in architectural technology or consent of architectural technology coordinator.

229-2 Architectural Estimating. Study of estimating methods including material lists and quantities, material and labor costs, and factors affecting construction costs. Lecture: two hours. Prerequisite: Technical Careers 105a,b; 214 and major in architectural technology or consent of architectural technology coordinator.

316-3 Architectural Structures III. Continuing study of framing materials and systems for buildings using advanced concepts of structural analysis. Included are earthquake resistant structures, composite beams, plastic theory, statically indeterminate structures, long spans, moment distribution, multi-story structures, etc. Lecture: three hours. Prerequisite: 226 or consent of architectural technology coordinator.

318-3 Architectural CADD I. Introduction to, and the development of the competencies and skills in the use of computer aided design and drafting in the architectural disciplines. Includes the development of two dimensional drawings using the C.A.D. system. Prerequisite: 111 and consent of instructor.

319-3 Computer Applications in Architecture. Teaches how to use available computer facilities to solve architectural problems. Students learn how to write simple computer programs to im-

plement several technical design procedures taught in the architectural technology program. Prerequisite: elementary computer course, equivalent architectural preparation, or consent of instructor.

328-3 Architectural CADD II. Skill development of the computer aided drafting system in the preparation of contract documents in all architectural disciplines and specifically working drawings. Emphasis will be placed upon developing competencies in data and graphics repeatability. Prerequisite: 318 and consent of instructor.

338-3 Architectural CADD III. Skill development in the computer aided design system in the schematic and design development phases of all architectural disciplines. The use of the computer aided design system as a tool for three dimensional creative problem solving. Prerequisite: 328 and consent of instructor.

354-8 Architectural Project Development. Correlation of the design, design development, and construction drawing phases of a building project. Development of a project from the initial program through the three phases with appropriate drawings required for each phase. Lecture: three hours. Laboratory: nine hours. Prerequisite: 224, 225, and College of Technical Careers baccalaureate major or consent architectural technology coordinator.

Army Military Science (Department, Courses)

Army Military Science studies is a voluntary course sequence which leads to a commission as an officer in the United States Army (Active Army, Army Reserves, or Army National Guard). The basic course, consisting of four 100 and 200 level courses is open to all students and carries no military obligation. Students may take one or all the basic courses offered, receiving credit hours for each course, without incurring a commitment to further study in army military science or any branch of the armed forces. If a student continues into the advanced course, the student will then incur a military obligation. The obligation may be served in the Active Army, Army Reserves, or Army National Guard after the student is commissioned an officer, upon completion of the Army Military Science program. Students who wish to complete the program must complete a bachelor's degree, although the field of study is unrestricted. History 393 and courses in communication skills, human behavior, computer literacy, and math reasoning are also required.

Veterans of any service, students who are currently members of the armed forces (Reserve or National Guard), and students who have successfully completed four years of Junior Reserve Officer Training Corps instruction, may be eligible to enroll into the advanced course once they have obtained sophomore academic status at the University. Students who have no prior military service may attend a six week basic camp at Fort Knox, Kentucky, which will qualify them for entrance into the advanced course of Army Military Science. This six week camp incurs no obligation on the part of the student.

All students enrolled in the advance course must attend a six week advance camp at Fort Riley, Kansas, between the first and second years of the advance course (normally the summer between the junior and senior school year). Both the basic and advanced camp pay the student for travel and attendance at camp, plus provide free room, board, and uniforms.

Financial assistance is available in the form of Illinois State ROTC scholarships, national ROTC scholarships, and a tax free \$100 per month (for ten months) subsistence pay for all students in the advanced course.

Army ROTC classes are open to all University students with the permission of the professor of Army Military Science. Non-contracted students participating in the advanced course are not eligible for army scholarships or financial aid, and will not be commissioned as Army officers.

Courses

101-1 Introduction to Military Science. An examination of the realities of conflict and the U.S. response to conflict. Particular emphasis is on the U.S. Army's role. Includes the

history, organization, and mission of the U.S. military and explores the opportunities resulting from the individual's decision to exercise leadership within the military organization.

102-1 or 2 Land Navigation and Traverse. An introduction to land navigation involving the use of the compass, topographic maps, the sun, and prominent stars. Includes terrain traverse techniques such as free climbing and rappelling. Competitive compass exercises will also be presented as well as other outdoor practical exercise. Two credit hours will be given for those who attend the Leadership Laboratory.

201-3 Combat Survival Skills. Applied leadership in a small group context. Exercises in self-confidence, group communications, and leadership evolved from situations where the group is required to function and survive on a self-sufficient basis. Principles of survival and cooperative effort will be explored in depth, with maximum involvement of the student in leadership and problemsolving roles. Includes Leadership Laboratory.

202-2 Introduction to Leadership. A study of the Military Management System, including the functional aspect of leadership within the military structure. Includes the presentation of military leadership traits, styles, approaches, managerial techniques, and communications.

258-1 to 13 Leadership Equivalency. Experience credit for 101, 102, 201 and 202 are given upon successful completion of this leadership camp held at Ft. Knox, Kentucky. Advance placement into 301 or 302 will be given based on the consent of the professor of military science. Prerequisite: satisfactory completion of the academic phase of the six-week field training program.

301-4 A Study of Organizational Leadership. A multi-faceted approach to the study of leadership in both a military and civilian setting. Emphasis is placed upon human behavior, communication, the individual as a leader, group dynamics, and the military's interface with society. An extensive block on ethics, morality and the Code of Conduct is also presented. Physical training techniques are taught with practical application. Includes Leadership Laboratory. There is an additional \$20 charge for this course. Prerequisite: consent of the professor of military science.

302-3 Small Unit Tactics. The student is introduced to small unit tactical operations at the platoon and company level. Offensive, defensive, and retrograde operations are covered in detail. Unit organization and patrolling are also stressed. Practical exercises are conducted in the classroom and in field environments. Physical training is also conducted. There is an additional \$20 charge for this course. Prerequisite: consent of the professor of military science.

358-6 Advanced Leadership Camp. A special six-week field study training program designed to further prepare Army ROTC advanced course students for the basic tasks that will be required of them as junior officers and leaders in the Army. The course is normally conducted at Fort Riley, Kansas, during the summer. Prerequisite: consent of the professor of military science.

401-4 Advanced Leadership and Management. An analysis of selected leadership and management problems in the following military subjects: unit administration at company level emphasizing correspondence; fundamental concepts of military justice in the armed forces of the United States, including the procedures by which judicial and nonjudicial disciplinary measures are conducted; U.S. Army readiness program as it deals with unit maintenance; the position of the United States in the contemporary world scene discussed in the light of its impact on leadership and management problems of the military service; and a fundamental knowledge of the logistical support available to the unit. Leadership development is continued by the application of leadership principles, stressing responsibilities of the leader, and increasing experience through practical exercises. Includes Leadership Laboratory. There is an additional \$20 charge for this course. Not for graduate credit.

402-3 Fundamentals and Dynamics of the Military Team. This course is designed to give the students a working knowledge in the theory and dynamics of the military team. Generally this includes a study of combat operations by the various military teams, with emphasis on the planning and coordination necessary between the elements of the team. The subjects to be presented during this three-hour block of instruction include an understanding of command and staff organization at the battalion level, military intelligence methods and procedures used to obtain intelligence, and an analysis of the principles used in internal defense and development, emphasizing tactical operations which include civil affairs. Since this course is presented just prior to the commissioning of the cadets, several hours of instruction are presented near the end of the school year on the obligations and responsibilities of an Army officer. Includes Leadership Laboratory. There is an additional \$20 charge for this course. Not for graduate credit.

403-1 to 3 Independent Study in Military Science. Directed independent study in selected areas. Students may register for one hour per semester or may register for one hour for the first semester and two hours for the second. They may not register for three hours during one semester. Not for graduate credit. Prerequisite: consent of the professor of army military science.

Art and Design (School, Majors [Art and Design], Courses)

The School of Art and Design offers two majors: art and design; and offers two

degrees: the Bachelor of Arts and the Bachelor of Fine Arts. Ten specializations are offered in art: the B.A. degree offers art education, art history and general studio; and the B.F.A. degree offers drawing, painting, printmaking, sculpture, ceramics, metalsmithing and fibers/weaving. Two specializations are offered in design under the B.A. degree: visual communication and product design.

The education of teachers, scholars, artists and designers requires both comprehensive learning in the specialization and broad learning in studies outside the major. In meeting these objectives, the School honors the importance of general education and emphasizes both theory and practice in its specializations. Studies are sequentially planned to facilitate orderly progression throughout the baccalaureate curriculum.

The specializations in art education and art history are offered within a liberal arts curriculum format. Upon completion of the program, students in art education are prepared and certified to teach in the public schools. In art history, graduates are prepared for advanced study or for careers that require scholarly and liberal arts training. General studio is the most flexible program offered. By means of both requirements and elective options, students may plan interdisciplinary programs in art and design or develop programs leading towards a specific career objective.

The B.F.A. specializations in art and B.A. specializations in design are professional programs. With a B.F.A. degree, students are prepared to practice as studio artists, go on to advanced study or enter careers in their studio specializations. The B.A. in design prepares students with the intellectual, technological and practical knowledge required in the professional world of design. With a specialization in visual communication, students are accustomed to the discipline practiced in the various fields of application for graphic design. With a specialization in product design, students are prepared to practice in the industrial field of contemporary product development.

Prior to entry into a selected specialization, all majors are required to complete foundation studies: beginning coursework in art history, drawing, and two-and-three dimensional design. In addition, for entrance into the B.F.A. specializations, students must be in good academic standing and successfully completed a portfolio review of work from previous art studies.

ART MAJOR

Bachelor of Fine Arts Degree, College of Communications and Fine Arts

A student majoring in art should select one of the following fields of interest by the end of the sophomore year: drawing, painting, printmaking, sculpture, ceramics, metalsmithing, or fibers/weaving.

ART MAJOR—DRAWING SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Drawing</i>	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b,	(6) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300a, 300b, 300c, 301a, 301b, 302a or 302b or 302c, 400a, 400b, 400c.....	48
Art and Design history electives: 300- or 400-level.....	6
Studio art electives	20
<i>Total</i>	135

ART MAJOR-PAINTING SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Painting</i>	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b,	(6) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300a, 300b, 301a, 301b, 301c, 302a or 302b or 302c, 401a, 401b, 401c.....	48
Art and Design history electives: 300- or 400-level.....	6
Studio art electives	20
<i>Total</i>	135

ART MAJOR-PRINTMAKING SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Printmaking</i> ...	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300a, 300b, 301a, 302a, 302b, 302c, 402a, 402b, 402c	48
Art and Design history electives: 300- or 400-level.....	6
Studio art electives	20
<i>Total</i>	135

ART MAJOR-SCULPTURE SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Sculpture</i>	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 200, 201, 203, 204 or 205 or 206, 300a or 300b or 300c, 303 (9 credits), 403a, 403b, 403c	39
Art and Design history electives: 300- or 400-level.....	6
Craft electives	6
Studio art electives	23
<i>Total</i>	135

ART MAJOR-CERAMICS SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC.	
<i>Requirements for Major in Art with Specialization in Ceramics</i>	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 200 or 201 or 202, 203, 204, 6 credits from 205 or 206 or 214, 304a, 304b, 404a, 404b, 404c, 404d-6	39

Art and Design history electives: 300- or 400-level.....	6
Craft or sculpture electives	9
Studio art electives	20
Total	135

ART MAJOR—METALSMITHING SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Metalsmithing</i> .. (6) +	89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major Requirements: Art and Design 122, 213, 203, 205, 6 hours from 204, 206, or 214, 305a, 305b, 405a, 405b, 405c, 405d-6	42
Art and Design history electives: 300- or 400-level.....	6
Craft or sculpture electives	9
Studio art electives	17
Total	135

ART MAJOR—FIBERS/WEAVING SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Art with Specialization in Fibers/Weaving</i>	(6) + 89
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 200, 213, 202, 201 or 203, 204 or 205 or 214, 206, 306a, 306b, 406a, 406b, 406c, 406d, Cinema and Photography 425	45
Art and Design history electives: 300- or 400-level.....	6
Craft electives	6
Studio art electives	17
Total	135

Bachelor of Arts Degree, College of Communications and Fine Arts

A student majoring in art with a specialization in art history, art education, or general studio should select the specialization by the end of the sophomore year.

ART MAJOR—ART HISTORY SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC. 8 hours of foreign language (French or German) are required, four of which will not count toward General Education Requirements.	
<i>Requirements for Major in Art with Specialization in Art History</i> ... (10) +	74
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 201, 203, 204 or 205 or 206, 217, 347, and 27 hours from 327, 357, 407, 417, 427, 437, 447, 457, 467, 477, 487, 497	42
French or German.....	(4) + 4
Art and Design electives	6
Electives.....	7
To be chosen from philosophy, history, anthropology, classical studies,	

foreign languages, religious studies, or other courses approved by the School of Art and Design	
Total	120

ART MAJOR—GENERAL STUDIO SPECIALIZATION

General Education Requirements	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
Requirements for Major in Art with Specialization in General Studio	(6) + 74
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b	(6) + 15
Major requirements: Art and Design 200, 201, 203, 204, 205 or 206, 300a or 300b or 300c	15
Art and Design history electives	3
Studio electives: 300- and 400-level	21
Electives selected from Commercial Graphics, Cinema and Photography or Art and Design	6
Electives	14
Total	120

Bachelor of Arts Degree, College of Communications and Fine Arts or Bachelor of Science Degree, College of Education

ART MAJOR—ART EDUCATION SPECIALIZATION

General Education Requirements	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC, GEB 114 or 301 and GEB 202, GEC literature (or a third English course), GEC 213, GED 101 and 102, GED 152 or 153, GEE 201 and two hours of physical education courses.	
Requirements for Major in Art with Specialization in Art Education ...	(6) + 48
Foundation requirements: Art and Design (100a), 100b, 107, 110, 120, (207a), 207b	(6) + 15
Studio requirements: Art and Design 201, 203, 204, 205, 202 or 206	15
Art education requirements: Art and Design 308, 318, 328a, 338a, 328b or 338b	10
Art and Design history electives	3
Studio Art and Design electives	5
Professional Education Requirements	25
See Teacher Education Program, Chapter 3.	
Total	120

Minor

A total of 21 hours is required for the minor. The student must complete Art and Design 100a, 100b, 107, and 207a for 12 hours and may then elect studio or art history courses for the remaining nine hours.

DESIGN MAJOR

Bachelor of Arts Degree, College of Communications and Fine Arts

A student majoring in design should select one of the following specializations by the end of the sophomore year.

DESIGN MAJOR—PRODUCT DESIGN SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Design with Specialization in Product Design</i>	(6) + 74
Foundation requirements: Art and Design (100a), 100b, 107, 110, 122, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 203, 204, 205, or 206 (6 hours); 213, 249, 253, 263, 323, 339, 363, 383, 413, 423, 429, 489.....	43
Art and Design history elective.....	3
Approved electives.....	13
<i>Total</i>	120

DESIGN MAJOR—VISUAL COMMUNICATION SPECIALIZATION

<i>General Education Requirements</i>	46
Art and Design 100a and 207a must be taken as approved substitutes in GEC	
<i>Requirements for Major in Design with Specialization in Visual Communication</i>	(6) + 74
Foundation requirements: Art and Design (100a), 100b, 107, 110, 122, (207a), 207b.....	(6) + 15
Major requirements: Art and Design 222, 232, 249, 302b or 302c, 322, 339, 342, 372, 422, 429, 452, 472, Cinema and Photography 425.....	39
Art and Design history electives (347 recommended).....	3
Approved electives.....	17
<i>Total</i>	120

Courses

100A-3 Two-Dimensional Design. A fundamental design class dealing with two-dimensional concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgement. Studio fee \$3. Incidental expenses not to exceed \$50.

100B-3 Three Dimensional Design. A fundamental design class dealing with three-dimensional design concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgement. Studio fee \$10. Incidental expenses not to exceed \$30.

107-3 Fundamentals of Art. A study of the language of visual art and its use to communicate through visual media. Critical thinking is developed through visual awareness and the understanding of the universality of visual concepts.

110-3 Introduction to Drawing I. Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of the still life. Studio fee \$3. Incidental expenses not to exceed \$25.

120-3 Introduction to Drawing II. Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of inanimate and animate forms in space. Studio fee \$3. Incidental expenses not to exceed \$25.

122-3 Drawing for Communication. An introduction to graphic thinking and the visualization of ideas using the materials, tools and techniques employed in design. Students will develop skills and knowledge necessary to effectively think and communicate using pencils, markers and mixed media. Recommended prerequisite: 110.

200-3 Introduction to Drawing III. Concerned with the introduction to various media, compositional devices, spatial investigation, and the human figure. Studio fee \$22. Incidental expenses not to exceed \$25. Prerequisite: 120.

201-3 Introduction to Painting. Emphasizing material, techniques, processes, and ideas fundamental to the discipline of painting. Studio fee \$3. Incidental expenses not to exceed \$50. Prerequisite: 100a, b, 107, 110, 120, 207.

202-3 Introduction to Printmaking. Lectures and films on the basic printmaking processes: relief, intaglio, plano graphic, stencil, and cast paper. Emphasis on studio lab work in relief and inta-

glio, printmaking processes. Studio fee \$30. Incidental expenses not to exceed \$35. Prerequisite for art majors: 100a, b, 107, 110, 120, 207.

203-3 Beginning Sculpture. Emphasis experience in materials, techniques, processes, and ideas fundamental to the discipline of sculpture. Studio fee \$35. Incidental expenses not to exceed \$25. Prerequisite: 100a, b, 107.

204-3 Beginning Ceramics. Introduction to ceramic forming techniques of hand building and throwing on the potter's wheel. Students will explore traditional methods of ceramic form construction and will develop fundamental building skills through dialogue, projects, and problem-solving experiences. Studio fee \$33 to \$66. Incidental expenses not to exceed \$15. Prerequisite: 100a, b, 107.

205-3 Beginning Jewelry and Metalsmithing. An introduction to the fundamental skills and technology of jewelry and metalsmithing through practical experience. The properties of the medium will be explored and a survey of the field will be made. Studio fee \$24. Incidental expenses not to exceed \$10. Prerequisite: 100a, b, 107.

206-3 Beginning Fibers. A studio course providing experience in the material, techniques, processes, and ideas in basic dyed, printed, stitched, and non-loom fibers. Emphasis will be on the expressive use of the two- and three-dimensional qualities of fibers. Studio fee \$50. Incidental expenses not to exceed \$50. Prerequisite: 100a, b, 107.

207-6 (3, 3) Introduction to Art History. Introduction to the scope, methods, and subject matter of art history as a discipline. Emphasis in methodology and problem solving. (a) Covers ancient, medieval, Renaissance and non-European art. Prerequisite: 107. (b) Covers Baroque, Rococo, Nineteenth Century and modern art. Prerequisite: 107 and 207a.

213-3 Basic Materials and Processes. Introduction to tools and skills used in the manipulation of wood, metal, and plastics. Emphasis is placed on projects selected by the students to enhance their ability to solve problems in terms of specified materials and processes. Prerequisite: 100a and 100b.

217-3 Methodology of Art History. Lecture, discussion, and presentation of the research tools of art history, art historical logic, and the methods of art criticism.

219-2 to 18 Workshop. Workshop experience in specific studio and academic disciplines: (a) drawing, (b) painting, (c) watercolor, (d) printmaking, (e) sculpture, (f) ceramics, (g) glass, (h) fibers, (i) metals, (j) art education, (k) art history, (l) papermaking. Studio fee \$3 to \$50, depending on course discipline. Each topic restricted to two hours per section.

222-3 Type as Image. An introduction to skills, techniques and design as it relates to typography. The skills and techniques include sketching and drawing letterforms, and preparing typographic, rough, and comprehensive layouts, as well as type specification. A general knowledge of type categories and visual techniques used to complement and enhance typographic messages is emphasized. Prerequisite: 100a and 100b.

232-3 Graphic Reproduction. An introduction to the tools, skills, techniques and methods used by designers to insure proper preparation of image and text for reproduction. The course covers fundamentals of the printing production process; including mechanical preparation, sizing and scaling, paper and color specification, and the integration of typography into the process. Prerequisite: 100a, 100b and 222.

249-3 Two and Three Dimensional Presentation. An introduction to the basic knowledge, skills, methods and materials utilized by the practicing designer to effectively present and communicate a design concept in both two and three-dimensional form. Development of skills and knowledge necessary to effectively plan, develop and fabricate boards, models and mockups in order to present concepts according to professional design standards is emphasized.

253-3 Human Factors. An introduction to basic human-machine concepts specifically oriented to design students. Subjects include sensory and motor processes, space and arrangement, and environmental factors in design. Prerequisite: 213

257-1 to 30 Work Experience. Credit for concurrent or non-structured work performed which is related to the student's educational objective. Credit to be granted by department evaluation. Mandatory Pass/Fail.

258-1 to 30 Work Experience. Credit for past work performed which is related to the student's educational objective. Credit to be granted by departmental evaluation. No grade for past work experience.

259-2 to 15 Transfer Credit. Credit to be given for course work granted by any accredited educational institution or vocational institution. Prerequisite: any work accepted for transfer credit in art must be granted with the approval of the appropriate faculty.

263-3 Materials and Methods I. Exploration of methods, tools, and materials for developmental prototyping. Prerequisite: 213.

300-9 (3, 3, 3) Intermediate Drawing. (a) Beginning figure drawing, (b) intermediate figure drawing, (c) advanced figure drawing. Studio fee \$30 to \$60. Incidental expenses not to exceed \$25 for each section. Must be taken in a, b, c sequence. Prerequisite: 200.

301-9 (3, 3, 3) Intermediate Painting. (a) Oil painting emphasizing the figure, (b) aqueous medium emphasized, (c) beginning individual problem solving. Studio fee: for a, \$30 to \$60; for b and c, \$3 to \$6. Incidental expenses not to exceed \$50 for each section. Prerequisite: 201; a and b must be taken before c.

302A-3 Beginning Etching. Introduction to the basic processes of intaglio printmaking, including etching, aquatint, engraving, and drypoint. Emphasis will be placed on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$50. Prerequisite: 202 for students specializing in printmaking only.

302B-3 Beginning Lithography. Introduction to the history and basic processes of lithography, including use of stone and plate. Emphasis will be on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$45. Prerequisite: 202 for students specializing in printmaking only.

302C-3 Beginning Silkscreen. Introduction to the basic processes and history of silkscreen; including construction of screen and hand and photographic stencil-making techniques. Studio fee \$40. Incidental expenses not to exceed \$45. Prerequisite: 202 for students specializing in printmaking only.

303-9 (3, 3, 3) Intermediate Sculpture. A studio orientation to tools, techniques, materials, and problems involved in historical and contemporary sculpture. Metal fabrication, figure, wood and stone carving, and plaster fabrication will be emphasized. Studio fee \$8 per credit hour enrolled. Incidental expenses not to exceed \$50. Prerequisite: 203.

304-6 (3, 3) Intermediate Ceramics. (a) Focuses on structured problems designed to encourage the student to apply basic forming skills experienced at the introductory level. Pottery shapes requiring singular and multiple form components will be investigated and simple glazing techniques will be introduced. (b) Stresses studio problems of a group nature and introduces glaze calculation as both theory and a practical tool. Personal and creative interpretation of assignments; some problems requiring group effort. Must be taken in a,b sequence. Studio fee \$50 to \$100. Incidental expenses not to exceed \$10 for each section. Prerequisite: 204.

305-6 (3, 3) Intermediate Metalsmithing. (a) Exploration of various processes emphasizing the diversity of the technical possibilities within the discipline of metalsmithing. (b) Emphasis placed on the use of these processes to develop individual styles. Studio fee \$24. Incidental expenses not to exceed \$25 for each section. Prerequisite: 205.

306-6 (3, 3) Intermediate Fibers. (a) Introduction to weaving; simple and floor looms; work in spinning, dyeing, stitching, printing, and non-loom fibers is encouraged. (b) Continued work in weaving and dyeing with emphasis on double weave, sculptural fibers, and warp and weft ikat. Emphasis on personal expression, craftsmanship, and imagery. Studio fee \$50. Prerequisite: 206.

307-3 Ancient Art. A survey of ancient art concentrating on Egyptian, Mesopotamian, Aegean, Greek, Etruscan, and Roman art. Special attention will be given to traditional art forms such as architecture, sculpture, and pottery. Additional art forms will be investigated as they are germane to a particular culture.

308-3 Theories and Philosophies of Art Education. Students develop an understanding of the major art issues in art education through examining theories and philosophies of art education. Areas of focus include trends in art education, child development in art, perceptual and psychological development, learning theory, and teaching methods. Requirements include extensive reading and preparation of a major paper.

309-3 to 12 Independent Study. To be used by majors in the School of Art and Design to pursue independent research activities. Prerequisite: completion of all foundation courses, 3.0 grade point average, major in the School of Art and Design, and consent of instructor.

317-3 Medieval Art. A survey of medieval art from ca. 250 A.D. to 1400 A.D. Early Christian, Byzantine, Celtic, Carolingian, Attowain, Romanesque, and Gothic architecture, sculpture, and painting will be given, as well as representative examples of the minor arts where germane to a particular culture.

318-2 Curriculum Development in Art Education. Prepares students to organize art resources, materials, and concepts into effective art learning experiences. The focus is on integrating art concepts from art history, aesthetics, criticism, etc., with studio methods and techniques. Requirements include extensive reading, the preparation of a position paper on teaching art, and developing a curriculum document.

319-3 Art Studio for Non-Majors. General studio for the non-art major. Studio fee \$15 to \$40. Incidental expenses will be at least \$10 per semester.

322-3 Visual Communication I. Introduction to visual communication, including exploration of words, images, and symbols. Experimentation with graphic techniques and processes. Emphasis on solving basic visual communication problems. Prerequisite: 222 and 232.

323-3 Product Design Analysis. An introduction to product evaluation techniques, such as human engineering, consumer safety, environmental impact, design liability, and patent protection. Prerequisite: 253.

327-3 Esthetics. General survey of historical and contemporary philosophies of the beautiful with particular emphasis upon their relation to visual works of art and individual student research leading to the organization and presentation of a personal esthetic concept. Prerequisite: 207b.

328A-2 Art Education Methods: Elementary. Lecture and studio. Prepares students to teach children the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

- 328B-1 Internship Laboratory.** Observation and pre-teaching experiences in educational settings.
- 338A-2 Art Education Methods: Secondary.** Lecture and studio. Prepares students to teach adolescents the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.
- 338B-1 Internship Laboratory.** Observation and pre-teaching experiences in educational settings.
- 339-3 Survey of Design.** An examination of design within the last two centuries emphasizing industrial design and visual communication; *ie.*, advertising/promotions, packaging, publication, exhibition, signage and informational graphics. A review of designs, designers, processes and methodologies in relation to technological, scientific and cultural movements of the past and present. Looks at implications for the future. Prerequisite: 107, 207a,b.
- 342-3 Introduction to Computer Graphics.** Introduction to the use of the computer in the production of graphic images. Topics include the definition of two- and three-dimensional data, the generation of engineering and perspective images, and animation. Prerequisite: 232.
- 347-3 Survey of 20th Century Art.** A survey of the major developments in painting, sculpture, architecture, and other selected areas of the visual arts from the beginning of the 20th century to the present. These developments are examined in relation to other significant cultural, scientific, and philosophical events of the 20th century. Prerequisite: 207b or consent of instructor.
- 348-3 Art Education for Teachers.** Lecture and studio for non-art majors. Especially applicable to pre-school and K-6 grades. Introduction to uses and applications of art media, approaches to teaching and artistic awareness, concept development, creative expression, appreciation, art judgment, and knowledge of our art heritage. Studio fee \$10. Incidental expenses not to exceed \$15.
- 357-3 19th Century Art.** Survey of painting, sculpture, and architecture in Europe from the French Revolution to the end of the century. Includes such major stylistic movements as Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, and the roots of modern art. Prerequisite: 207b.
- 363-3 Product Development.** Investigation and identification of significant product related human need areas. Application of development methodologies in selected product design projects. Prerequisite 323 and to be taken concurrently with 383.
- 372-3 Visual Communication II.** An investigation of the theories and methods of visually communicating concepts and information. Emphasis is placed on the analysis of the communications need and progresses through the production of items in prototype form. Prerequisite: 322.
- 383-3 Practicum in Product Design.** Advanced comprehensive product design projects developed into production prototypes. Prerequisite: 323 and to be taken concurrently with 363.
- 388-1 to 36 Study Abroad.** Provides credit toward the undergraduate degree for study at an accredited foreign institution or approved overseas program. Final determination of credit is made on the student's completion of work. Prerequisite: one year of residence at this university, good academic standing, and prior approval of the department.
- 400-3 to 30 (6, 6, 3, 3 to 15) Advanced Drawing I.** (a) Figure drawing. Not for graduate credit. Prerequisite: 300a, b, c. (b) Individual research. Not for graduate credit. Prerequisite: 400a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 400b. (d) Independent study in drawing. Prerequisite: for undergraduates, 400b; for graduates, consent of major adviser. Studio fee: for a and b, \$54 to \$108; for d, \$3 to \$6. Incidental expenses may exceed \$50 for each section.
- 401-3 to 30 (6, 6, 3, 3 to 15) Advanced Painting I.** (a) and (b) Individual problem solving with emphasis on technical and conceptual synthesis, Not for graduate credit. Prerequisite: for a, 301a, b, c; for b, 401a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 401b. (d) Independent study in painting. Prerequisite: for undergraduates, 401b; for graduates, consent of major adviser. Studio fee for a, b, and d, \$3. Incidental expenses may exceed \$50 for each section.
- 402-3 to 30 (6, 6, 3, 3 to 15) Advanced Printmaking I.** (a) Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: 301, 6 hours. (b) Individual research with emphasis on history, processes, and ideas which lead to the formation of personal content. Not for graduate credit. Prerequisite: 402a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 402b. (d) Independent study in printmaking. Prerequisite: for undergraduates, 402b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$10 per credit hour enrolled. Incidental expenses may exceed \$50 for each section.
- 403-3 to 30 (6, 6, 3, 3 to 15) Advanced Sculpture I.** (a) Foundry techniques and direct metal fabrication. Not for graduate credit. Prerequisite: 303-6 hours. (b) Individual research with emphasis on history, materials, processes, and ideas that form personal content. Not for graduate credit. Prerequisite: 403a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 403b. (d) Independent study in sculpture. Prerequisite: for undergraduates, 403b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.
- 404-3 to 27 (3, 6, 3, 3 to 15) Advanced Ceramics I.** (a) Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: 304, 6 hours. (b) Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: 404a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 404b. (d) Independent study in ceramics. Prerequisite: for undergraduates, 404b; for graduates, consent of major adviser.

Studio fee: for a, b, and d, \$24 to \$48 per credit hour enrolled. Incidental expenses may exceed \$20 for each section.

405-3 to 27 (3, 6, 3, 3 to 15) Advanced Metalsmithing. (a) Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Prerequisite: 305a, b. (b) Media exploration to develop individual styles. Not for graduate credit. Prerequisite: 405a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 405b. (d) Independent study in metalsmithing. Prerequisite: for undergraduates, 405b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$8 per credit hour enrolled. Incidental expenses may exceed \$75 for each section.

406-3 to 27 (3, 6, 3, 3 to 15) Advanced Fibers I. (a) Individual design problems. Not for graduate credit. Prerequisite: 306b. (b) Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Prerequisite: 406a. (c) Senior seminar and exhibition. Not for graduate credit. Prerequisite: 406b. (d) Independent study in fibers. Prerequisite: for undergraduates, 406b; for graduates, consent of major adviser. Studio fee for a and b, \$17 per credit hour enrolled; for d, \$15 to \$30 per semester. Incidental expenses may exceed \$75 for each section.

413-3 Professional Practice in Product Design. The study of designer/client relationships, business practices, design office procedures, and professional ethics. Not for graduate credit. Prerequisite: 363, 383 and senior standing or consent of instructor.

414-3 to 21 Glass I. A studio course designed for the beginning glass student focusing initially upon basic "flat glass" and core working techniques and processes. Coursework includes projects intended to familiarize the student with designing and executing products in stained glass. Student will be introduced to forming techniques in glassblowing. Studio fee \$12 per credit hour enrolled. Prerequisite: consent of instructor.

415-4 A Creative Look at Reclamation Possibilities for Massively Disturbed Land. Presents the possibility that massively disturbed areas can be aesthetic resources if potential inherent in these sites can be recognized and addressed. Seminar/lecture/studio format with selected lectures given by invited speakers. Discussions include recognition of massive land disturbance; reclamation as a concept; environmental art and design; the questions a potential developer or designer of disturbed land should ask and where they might look for expert advice; and group critiques on student studio projects. Studio projects will involve the visualization in two and three dimension formats of plans for the reclamation of the students' chosen site with accompanying documentation.

422-3 Visual Communication III. Principles of visual message making and investigation of symbols as they are used in communication. Study includes the development of contemporary communication techniques including photographics, topography, color, and illustration as well as learning to identify techniques and processes of communication. Not for graduate credit. Prerequisite: 372.

423-4 Research in Product Design. An in-depth investigation and exploitation of a selected production material (plywood, sheet metal, plastic sheeting, etc.). Not for graduate credit. Prerequisite: 363 and senior standing or consent of instructor.

427-3 Renaissance Art. An examination of various topics appropriate to a study of Renaissance art, both Northern and Italian, during the fifteenth and sixteenth centuries in Europe. The emphasis is on a range of art history problems and methods of approach. Field trip required. Prerequisite: 207a or consent of instructor.

429-3 Portfolio. An investigation and implementation of the planning, production and management of interface information such as resume and presentation of self and portfolio. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

437-3 Baroque and Rococo Art. An examination of various topics appropriate to a study of Baroque and Rococo art in western Europe. Emphasis upon a range of art historical problems and methods of approach. Field trip required. Prerequisite: Art 207a or b or consent of instructor.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

452-3 Environmental Graphics. An introduction to the theory and practice of designing meaningful symbols for the public environment, including spatial perception and typography as related to signage systems, imagery, symbols, color, and light. Not for graduate credit. Prerequisite: 372.

453-4 Environmentally-Integrated Products. Development of products integral to comprehensive environmental planning. Not for graduate credit.

457-3 Women in the Visual Arts. (Same as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee: \$10.

459-1 to 6 Internship. Supervised work experience related to student's academic program and career objectives. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of design area head. Mandatory Pass/Fail.

463-4 Products for Special Populations. Products for special subset groups within greater population norms. May be of cross-cultural and interdisciplinary implementation. Not for graduate credit.

- 467-3 Critical Issues in Contemporary Art.** An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media.
- 472-3 Visual Communication IV.** Advanced problems in visual communication: the development of a corporate identity. Assigned projects simulate design studio procedures for solving contemporary visual identity problems. Not for graduate credit. Prerequisite: 422.
- 477-3 American Art of the Thirties.** A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: (1) a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture, and architecture, (2) an investigation into government-subsized art programs, and (3) recent governmental and corporate patronage of the arts through such programs as the National Endowment for the Arts.
- 487-6 (3, 3) American Art.** (a) U.S. art to 1913, study of American art from native Indian settlements through Colonial period to 20th Century. Attention to such art forms as painting, sculpture, and architecture, as well as the rich varied Indian folk and craft traditions. (b) U.S. art since 1876, study of American art and design from Industrial Revolution to present. Attention to such traditional art forms as painting, sculpture, and architecture, as well as the many facets of modern design. Prerequisite: 207a,b.
- 489-3 Senior Thesis.** Creative project development individualized by the student with the faculty sponsor. Not for graduate credit. Prerequisite: senior standing.
- 497-3 to 6 (3 per topic) Problems in Art History.** A close examination of selected categories of works of art from various periods, media, and cultures as illustrative of particular art historical problems. Topics will vary and include (a) portraiture, (b) landscape and still life, (c) narrative, (d) other selected topics. Sections a through c may be taken only once each, section d may be repeated as topics vary. Art historical perspectives to include formal analysis, iconography, art theory, social history, connoisseurship. Prerequisite: 300-level art history course or consent of instructor.
- 499-3 to 21 Individual Problems.** Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art, a 3.0 average, and consent of instructor.

Asian Studies (Minor)

The Asian studies program includes a variety of courses of the languages, civilizations, and contemporary issues of Asia. The program is intended to prepare a student for a number of career options with Asia interests. Through this program, a student may prepare for more advanced work on another campus, may develop a teaching specialty, or may broaden skills and knowledge which would be useful for professional and occupational interests in Asia.

A minor in Asian studies requires a minimum of 20 hours selected from a list of approved courses. Not more than eight hours may be taken in any one department for credit toward the 20 hours.

A student may major in Asian studies by means of the special major program of the University for the Bachelor of Arts degree. The student in this program has to meet University, General Education, and the College of Liberal Arts requirements. The student's special major will not be approved unless at least 30 hours selected from a list of approved courses with at least three disciplines included are completed. Students interested in this program are encouraged to take at least two years of an Asian language.

Athletic Training (Minor)

(SEE PHYSICAL EDUCATION)

Automotive Technology (Program, Major, Courses)

The automotive technology program in the College of Technical Careers provides

students with an opportunity to obtain a solid foundation of knowledge, experience, and skills that will assist in job entry and career advancement in the automotive service field. Fundamental concepts are emphasized in lecture classes and reinforced with practical laboratory activities including the diagnosis and repair of automobiles and laboratory units.

Current automotive trends indicate that the automobile will continue to experience changes that include expanded use of electronics and computerized controls for improving engine performance, fuel efficiency, exhaust emissions, and passenger comfort and safety. These changes will require service technicians who are knowledgeable and highly skilled in specialized areas of automotive technology. This program offers the student an opportunity to develop areas of specialization during the last two semesters of study in the associate degree program and, in addition, elective specialization classes are offered for those students who continue in a bachelor's degree program. The student should expect to spend about \$500 for a required basic tool kit consisting of both standard and metric tools.

The automotive technology program has achieved master certification by the National Institute for Automotive Service Excellence. Instruction is offered in all eight areas of ASE certification—engine repair, automatic transmissions/transaxles, manual drive trains and axles, front end, brakes, electrical systems, heating and air conditioning, and engine performance. All graduates are encouraged to complete the certification process by taking the ASE certification tests.

An advisory committee composed of leaders in the automotive field provides additional guidance to the program. Current members include representatives from General Motors Corporation, Ford Motor Company, Chrysler Corporation, Toyota Motor Sales, various automotive dealerships, and wholesale/retail outlets.

Associate in Applied Science Degree

During the first year, each student will enroll in core courses that provide opportunities to develop those technical skills considered essential to all automotive technicians. During the second year the student may choose four areas of study from eight possible areas offered. This allows the student to select courses that will assist in developing the chosen career path.

The associate degree can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable educational experience.

Other Programs

Third Year Offerings. Any student who has successfully completed the Associate in Applied Science degree with a major in automotive technology at Southern Illinois University at Carbondale, a community college, or other accredited postsecondary institution, may continue advanced automotive technical studies at the post-associate level. These advanced courses may also apply toward the bachelor's degree.

Bachelor's Degree. Graduates with the Associate in Applied Science degree with a major in automotive technology may continue their study toward a bachelor's degree. The bachelor's programs require an additional two or more years of study beyond the associate degree. The graduates may pursue the Bachelor of Science degree in the College of Technical Careers with a major in advanced technical studies. This bachelor's degree program is designed for those interested in technical/management positions in the automotive industry. The graduates may also pursue the Bachelor of Science degree in the College of Education with a major in vocational education studies. This is a teacher training program designed to prepare students as automotive instructors.

General Motors Automotive Service Educational Program. A cooperative work/study program is offered by General Motors Corporation, its participating dealers, and the College of Technical Careers automotive technology program. This associate degree program is two calendar years in length. Final selection for admission to this program is determined by the corporation and its dealers.

Buick Cooperative Program/Oldsmobile Cooperative Program. Two cooperative work/study programs are offered by these two divisions of General Motors Corporation in conjunction with the automotive technology and advanced technical studies programs in the College of Technical Careers. These programs are five calendar years in length and lead to the Bachelor of Science degree with a major in advanced technical studies. Participants are selected each year by the Oldsmobile and Buick divisions from students currently enrolled in the automotive technology program at Southern Illinois University at Carbondale.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Automotive Technology

GEB	3
GED 101, 102 and 153	9
Technical Careers 105a, 107a, b	6
Automotive Technology 101, 103, 105, 107, 115, 121, 123, 125, 127.....	27
Twenty-six hours of selected 200-level Automotive Technology courses.....	26
Total	71

Courses

- 101-3.5 Automotive Engine and Fuel System Laboratory.** Enables the student to acquire knowledge of fundamental service techniques and procedures required to service current automotive engines through actual hands-on experience on laboratory engines. The student will disassemble an engine using approved procedures, inspect and measure for wear and damage, investigate design features, and reassemble the engine to operating condition. The student will investigate numerous diagnosis procedures used in determining an engine's mechanical condition prior to disassembly. Instruction in the adjustment, repair, and diagnosis of carburetors with an introduction to infra-red testing of the carburetor and the emission control devices will be included. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 121.
- 103-3.5 Brakes and Chassis Laboratory.** Provides an opportunity for the student to perform approved procedures for diagnosis and repair of various brake and suspension systems. Experience in the use of brake, alignment, and wheel balancing equipment will be provided on live vehicles and laboratory units. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 123.
- 105-3.5 Engine Electrical Laboratory.** Provides the student with an opportunity to apply the fundamental theories of electricity/electronics to actual diagnosis and testing of the battery, charging, starting, and ignition systems. Special emphasis is placed on meter use and diagnostic procedures. Provides hands-on experience on both live and laboratory components and complete vehicles. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 125.
- 107-3.5 Drive Trains Laboratory.** Provides the student an opportunity to acquire modern technical skills necessary to service and rebuild drive line components. Course includes servicing, rebuilding, and adjusting rear drive axle assemblies, clutch assemblies, manual three-, four-, and five-speed transmissions, single and double cardan universal joints, drive shaft and drive line angles, torqueflight automatic transmissions, manual and torqueflight transaxles, and front drive axle assemblies. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 127.
- 115-1 Related Shop Laboratory.** Provides the student with an opportunity to learn and perform routine service operations and small repairs required of all automotive service personnel. Such topics as thread repairs, fasteners, drill sharpening, broken stud removal, copper and brass fitting identification and fabrication, and basic acetylene welding and brazing are examples of some of the course content. Theory-laboratory will be four clock-hours per week for eight weeks.
- 121-3 Automotive Engine and Fuel Systems Theory.** Explanation of the theory of operation

and design characteristics of the four-stroke cycle gasoline engine as well as the basic automotive fuel system and emission control systems. The different engine designs, factors affecting combustion, compression systems, valve trains, crankshaft and bearings, cooling systems, and systems used to control engine emissions of NO_x, HC, and CO are examples of topics studied. Theory will be six clock hours per week for eight weeks. Concurrent enrollment in 101.

123-3 Brakes and Chassis Theory. Provides instruction in the physical laws of hydraulics and pneumatics and their application to automotive brake and steering systems. Subject areas include steering geometry, suspension system designs, diagnosis and repair, brake system diagnosis and repair, and brake machining procedures. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 103.

125-3 Engine Electrical Theory. Provides the student with an opportunity to learn fundamental theories of electricity and electronics applicable to the automotive field. Subject areas include starting, charging, and ignition systems. Special emphasis is placed on electrical measurements and logical diagnostic procedures. Theory will be six clock hours per week for eight weeks. Prerequisite: concurrent enrollment in 105.

127-3 Drive Trains Theory. Provides the student the opportunity to learn the basic concepts of component design, theory of operation, and diagnosis of the modern drive line. Topics studied include rear axle assemblies, manual three-, four-, and five-speed transmissions, clutch and clutch components, propeller shafts, universal joints, manual and automatic transaxles, planetary gear sets, fluid couplings, and also complete rebuilding procedures and theory of a basic three-speed automatic transmission. Theory will be six clock hours per week. Prerequisite: concurrent enrollment in 107.

201-3.5 Automatic Transmission Laboratory. Permits the student to acquire practical experience in the latest diagnostic and service techniques required of current automatic transmissions. Customer vehicles along with laboratory units will be utilized to instruct in the proper diagnosis, disassembly, inspection, and reassembly, along with dynamic testing on a transmission dynamometer. Automatic transmissions covered include rear wheel drive, transaxles, overdrive transmissions and torque converter clutch operation. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 107, 121, 127, and concurrent enrollment in 221.

203-3.5 Automotive Body and Chassis Electrical Laboratory. Assists the student in developing a comprehensive understanding of the diagnostic and repair procedures required of the various body and chassis electrical systems, accessories, and comfort options commonly found on current production automobiles. The development of sound diagnostic techniques in the solution of real problems on live automobiles will be emphasized. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 105, 125, and concurrent enrollment in 223.

204-3.5 Automotive Air Conditioning Laboratory. Provides the student with an opportunity to obtain practical experience in the actual service and diagnostic procedures required of all current air conditioning systems. Activities presented will consist of all operations required of the refrigeration systems including compressor service and the diagnosis and repair of factory-equipped systems. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 105, 125, and concurrent enrollment in 224.

205-3.5 Electronic Fuel and Emission Controls Laboratory. Provides the student with an opportunity to apply the theories of automotive fuel and emission control system operation in the diagnosis of system problems. Special emphasis is placed on diagnosis and testing of system problems. Special emphasis is placed on diagnosis and testing of computer controlled fuel and emission components. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, 209, 229, and concurrent enrollment in 225.

207-3.5 Brakes and Suspension Systems Laboratory. Provides the student an opportunity to learn the techniques in servicing the latest production braking and suspension systems using computerized equipment. Students will receive instruction in wheel balancing, four-wheel alignment, and power assist rack and pinion steering gears. Automatic load leveling devices and air suspension will also be studied. The MacPherson strut and conventional front suspension designs including front drive configurations will be serviced. Brake system service will include electronic power brakes, hydro-boost, and vacuum assist units. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 103, 123, and concurrent enrollment in 227.

208-3.5 Engine Rebuilding Laboratory. Allows the student the opportunity to develop skills and service techniques considered essential in performing quality engine rebuilding. Service operations such as valve refacing, cylinder head, engine block, crankshaft, rod and piston reconditioning are examples of activities that will be performed. Diagnosis of engine mechanical failures and noises will also be emphasized. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 228.

209-3.5 Engine Electronics Laboratory. Provides an opportunity for the student to perform the approved procedures for diagnosis and repair of various engine electrical problems. Includes diagnosis of electronic ignition, computerized oxygen feed-back systems, charging and starting systems. Experience in the use of electronic diagnostic equipment will be provided on live vehicles and laboratory units. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 229.

210-3.5 Diesel Fuel and Electrical Systems Laboratory. Enables the student to learn the fun-

damental service techniques and procedures required to diagnose and service current automotive diesel fuel injection and electrical systems. The student will diagnose and disassemble diesel fuel injection components, inspect for wear or damage, and reassemble to operating condition. The diagnosis and repair of automotive diesel glow plug systems will be presented including thermal-mechanical and electronic controlled systems. Laboratory will be fourteen clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125 and concurrent enrollment in 230.

219-1 to 24 Automotive Cooperative Work Experience. The student will apply knowledge and skills learned in the classroom to on-the-job situations. Work experience may be completed in dealerships, independent repair centers, or with the automotive manufacturers. Prerequisite: major in automotive technology and consent of program coordinator.

221-3 Automatic Transmission Theory. Deals with automatic transmission torque converters, clutch systems, planetary gear sets, hydraulic clutch units, computer related controls, and hydraulic controls. The transmissions presented will include rear wheel drive, transaxles, and overdrive transmissions. Emphasis will be placed on theory of operation and current diagnostic procedures. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 107, 121, 127, and concurrent enrollment in 201.

223-3 Automotive Body and Chassis Electrical Theory. Allows the student to obtain a sound understanding of the theory of operation of the various chassis and body electrical systems, components, accessories, and popular comfort options. Examples of the units studied are body lighting and signal systems, dash instrumentation, windshield wiper and washer systems, cruise control, power windows and tailgates, power seat systems, and power door locks. Assisting the student in interpreting electrical wiring diagrams will be emphasized. Theory will be six clock hours per week for eight weeks. Prerequisite: 105, 125, and concurrent enrollment in 203.

224-3 Automotive Air Conditioning Theory. Allows the student to obtain in-depth instruction in the fundamental principles of refrigeration systems which are applicable to all current systems, plus the theory of operation of the various controls used on factory installed units. Such topics as the refrigeration cycle, temperature regulation, anti-frost controls, and air conditioning systems testing are examples of the material studied. Theory will be six clock hours per week for eight weeks. Prerequisite: 105, 125, and concurrent enrollment in 204.

225-3 Electronic Fuel and Emission Controls Theory. Provides the student with an opportunity to learn the theories of automotive fuel and emission control system operation. Special emphasis is placed on computer control of fuel and emission components. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, 209, 229, and concurrent enrollment in 205.

227-3 Brakes and Suspension Systems Theory. Provides the student with the introduction to computer braking systems and radial tuned suspensions. Other important topics are power rack and pinion steering gear operation and power steering pump service procedures. Also, theory will include MacPherson strut suspension operation and service, four-wheel independent suspension service, automatic load leveling devices, and air suspension operation. Electronic power brake units, hydro-boost, and vacuum brake units will be studied. Theory will be six clock hours per week for eight weeks. Prerequisite: 103, 123, and concurrent enrollment in 207.

228-3 Engine Rebuilding Theory. Emphasis will be on factors which determine engine component wear and appropriate service and machining operations to return the engine to manufacturer's specifications. Examples of topics covered are diagnosis procedures, metallurgy and machining processes, cylinder block service, cylinder head and valve train service, lubrications and crankshaft service, gaskets, and sealants. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 208.

229-3 Engine Electronics Theory. Emphasis will be on the basic theories of solid-state electronics as applied in the engine electrical systems. Includes an in-depth study of operational characteristics of transistor ignition, computer engine control, charging, and starting systems. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 209.

230-3 Diesel Fuel and Electrical Systems Theory. Provides the student with an opportunity to learn the fundamentals of automotive and light truck diesel fuel systems along with the electrical systems unique to the operation of light duty diesel engine. The principles of operation of a diesel engine, diesel combustion, and operation of the fuel injection pump will be presented. The diagnosis of the fuel system and engine performance will be presented along with the study of thermal-mechanical and electronically controlled glow plug systems. The starting, charging, and glow plug systems will be covered dealing specifically with operation and diagnosis. Theory will be six clock hours per week for eight weeks. Prerequisite: 101, 105, 121, 125, and concurrent enrollment in 210.

301-20 (5, 5, 5, 5) Advanced Studies in Automotive Electronics. Provides the student with the opportunity for advanced studies in theory, diagnosis, and service of electronic circuitry and computerized controls that are now an integral part of the automobile. The student may choose any of the following areas: (a) electronic engine controls, (b) computer controlled fuel and emission systems, (c) body and chassis electronics, (d) comfort control systems. Emphasis will be on development of advanced technical skills and diagnosis techniques within the subject area. Students will be required to complete a project under the supervision of the sponsoring faculty member. Each area of study will require 20 clock hours of class per week for eight weeks. Prerequisite: AAS degree in automotive technology or consent of program coordinator and required tool set.

302-20 (5, 5, 5, 5) Advanced Studies in Automotive Power Trains. Allows the student to gain practical experience in the latest diagnosis and service techniques required of the new and emerging technologies that constitute the modern automobile design. The student may choose any of the following areas: (a) engine machining techniques, (b) diesel fuel injection service, (c) conventional and front wheel drive transmissions, (d) uni-body and front wheel suspension and brake systems. Emphasis will be on the development of advanced technical skills within the subject area. Students will be required to complete a project under the supervision of the sponsoring faculty member. Each area of study will require 20 clock hours of class per week for eight weeks. Prerequisite: AAS degree in automotive technology or consent of program coordinator and required tool set.

Aviation Flight (Program, Major, Courses)

The aviation flight program is designed to prepare beginning students for the Federal Aviation Administration Commercial Pilot Certificate including the multi-engine and instrument ratings. Flight theory courses will supplement and complement each flight course. In order to maintain the highest possible standards for flight and theory courses, each lesson of every course is submitted to and approved by the Federal Aviation Administration. FAA designated check pilots will examine the student's performance and effectiveness periodically during each flight course. General education and basic science courses will be supplemented with related technical courses to enhance the student's professional value to the aviation industry. In addition to the University tuition and fees, substantial lab fees are assessed for each flight course. For current charges, contact CTC Aviation Flight.

The program has an advisory committee formed from among industry and community leaders. The advisory committee has the following functions: 1) assist in developing policy relative to the program, which includes performance measures in the review and evaluation of the program; 2) analyze labor market and industry needs relative to program intake and output; 3) communicate between industry and the program; 4) assist in conducting activities designed to assist the community as it relates to the program.

The associate degree can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-instructional educational experience.

Associate In Applied Science Degree, College Of Technical Careers

Requirements for Major in Aviation Flight

GEA 330.	3
GED 101, 102, 107, 153	12
Physics 203a and 253a or College of Technical Careers 107a and 107b	4
Avionics Technology 101, 200	7
Aviation Flight 200, 201, 202, 203, 204, 205, 206, 207, 260.	34
Total	60

Courses

200-3 Primary Flight Theory. Prepares the beginning aviation student for the FAA Private Pilot Written Examination. Consists of instruction in aerodynamics, FAA regulations, primary navigation, use of computer, weather, and radio navigation.

201-5 Flight – Primary. Provides flight instruction in preparation for the acquisition of the Private Pilot Certificate. Consists of dual flight instruction, solo and ground instruction in conjunction with each training flight and other flight-related topics.

202-3 Flight – Basic and Intermediate Theory. Instruction in Federal Aviation Administration regulations pertaining to commercial flight operations. Includes advanced instruction in aerodynamics, weather and safe operation of aircraft. Prerequisite: 200.

203-5 Flight – Basic. Beginning course in preparation for the Commercial Certificate. Major emphasis is upon solo and solo cross-country flight, with ground instruction in conjunction with

each training flight and other flight related topics. Prerequisite: 201 and a valid Private Pilot Certificate.

204-5 Flight – Intermediate. Continuing preparation for the Commercial Certificate. Includes dual, solo and night flight instruction and advanced maneuvers. Ground instruction is provided in conjunction with each training flight. Prerequisite: 203 or concurrent enrollment.

205-3 Flight – Instrument Theory. Course is directed to the theory of flight by instrument. Includes classroom instruction in Federal Aviation Administration regulations pertaining to instrument flight, navigation by radio aids, aviation weather, and function, use, and limitations of instruments required for instrument flight. Prerequisite: 202.

206-4 Flight – Instrument and Advanced. This flight course will complete requirements for the Commercial Certificate. Includes instrument flight instruction and dual and solo flight maneuvers. Prerequisite: 203, 204.

207-2 Flight – Multi-Engine Operations. Prepares the student for the FAA Multi-Engine Rating (airplane). Includes multi-engine flight instruction and individual ground instruction. Prerequisite: 206.

260-4 Reciprocation and Jet Airplane Systems. Students will have knowledge of construction, operation, and components of reciprocating and jet powerplants. They will understand the operation and components of cabin pressurization and air conditioning systems, flight control systems, landing gear systems, fuel systems, electrical systems, anti-icing systems, and fire detection systems.

300-2 Flight-Instructor (Airplane). Prepares the commercial pilot for an FAA Flight Instructor Certificate. Includes 20 hours of dual flight training and 40 hours of specialized ground instruction. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport. Prerequisite: 206.

301-1 Flight-Instructor (Airplane-Multi-Engine). This course consists of five hours of dual flight instruction and 10 hours of classroom instruction. Prepares the holder of flight instructor certificate for the addition of the multi-engine flight instructor rating. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport. Prerequisite: 300.

302-1 Flight-Instructor (Airplane Instrument). Designed to prepare the flight instructor to teach instrument flying, and to acquire the Instrumental Flight Rating. Course consists of ten hours of dual flight instruction and 15 hours of classroom instruction. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport. Prerequisite: 300.

303-3 Flight Instructor Ground School. This course is designed to aid the student who is obtaining a flight instructor's rating. It will cover principles to teaching as well as practical aspects of teaching flight maneuvers necessary for instruction. Prerequisite: 205.

400-1 Flight-Airline Transport Pilot. Prepares the commercial pilot for the FAA Airline Transport Pilot Certificate. Includes 40 hours of ground instruction and 20 hours of flight training in single-engine or multi-engine aircraft. This course carries substantial charges which may change from time to time. For exact charges contact the Air Institute and Service, Southern Illinois Airport. Not for graduate credit. Prerequisite: 206.

Aviation Maintenance Technology (Program, Major, Courses)

Skilled technicians are in demand in the aviation industry, both in airlines and general aviation. The industry demands people who possess a wide range of knowledge and ability provided by general education as well as special technical training.

The student learns reciprocating and jet powerplants, cabin environment and jet transport systems, hydraulics, fuel systems, ignition-starting systems, carburetion and lubricating systems, instruments, and powerplant testing in coordinated classroom and laboratory work. The program is fully accredited by the Federal Aviation Administration. Students who wish to qualify for the FAA airframe and powerplant license are required to take a two-course post-associate specialization.

Instruction is conducted at the Southern Illinois Airport between Carbondale and Murphysboro in a combination laboratory-classroom-hangar facility.

The student should expect to spend about \$400 for a tool kit and special study materials.

Executives in the aviation industry constitute an advisory committee which serves the program. Current members are: James Barkley, Manager of Customer

Training, Bell Helicopter Textron, Fort Worth, Texas; Robert Bauman, Avionics Project Engineer, Mid Coast Aviation, Cahokia, Illinois; Raoul Castro, Aerospace International Management, Upland, California; Joseph DePaola, Director of Simulator/Training Equipment Support, American Airlines Flight Academy, Dallas-Ft. Worth Airport, Texas; Patrick Graham, Section Manager, Douglas Aircraft Company, Long Beach California; Robert J. Graham, Supervisor of Production Control, American Airlines, Chicago, Illinois; Gerald Hiller, Director of Product Support, King Radio Corporation, Olathe, Kansas; Robert Kopitzke, Curator, University of Texas at Dallas, Richardson, Texas; Paul Levitt, Aerospace Services Inc., Des Plaines, Illinois; Robert Long, Hartzell Propeller Products, Piqua, Ohio; Daniel Lookadoo, Maxwell Air Force Base, Alabama; Marshall Puckett, Vice President of Marketing, Terra Corporation, Albuquerque, New Mexico; Rick Vanek, General Dynamics, Fort Worth, Texas; William Vonder Linden, Falcon Jet, Wheeling, Illinois.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Aviation Maintenance Technology

GED 101, 102, 152	9
Technical Careers 105a.	2
Aviation Maintenance Technology 110, 111, 112, 113, 114, 116, 201, 203, 204, 205, 206, 210, 211, 212, 213, 214, 215, 216	67
Elective (in social science)	5
Total	83

Courses

110-4 Aircraft Structure-Fabrication and Repair. Students will be able to identify and select materials employed in aircraft construction. Using appropriate FAR's, they will demonstrate competence in repair of honeycomb, fiberglass, welded, wood, or fabric aircraft members. The student will inspect aircraft members for defects and, if necessary, inspect completed repairs for airworthy condition.

111-4 Materials Processing. Students will be able to identify, select, and inspect aircraft hardware and materials. They will be able to select and apply appropriate cleaning materials and to implement corrosion controls. They will become proficient in the use of precision measurement equipment and related inspection tools.

112-4 Aircraft Electricity. Students will have basic knowledge of electricity generation, AC and DC circuitries, and controls. They will be able to solve problems associated with electrical measurement (AC and DC), circuit interpretations and inspection, aircraft electrical load analysis, circuit malfunctions, and circuit or component servicing. They will have as an introduction, a basic knowledge of aircraft electronics.

113-2 Federal Aviation Regulations. Students will be able to select and use FAA technical and legal publications in order to perform the duties of an aircraft technician.

114-2 Aircraft Weight and Balance. Students will fully understand and solve problems of aircraft weight and balance. They will be able to perform weighing, computation of C.G., and establishing of equipment list.

116-3 Aircraft Instruments. Students will have a knowledge of operation, installation, marking, and interpretation of synchro and servo systems, aircraft and powerplant instruments. They will be able to install, adjust, and calibrate these instruments in accordance with FAA and manufacturers' recommendations.

201-2 Applied Science. Students will be able to apply and use the principles of applied science to describe the behavior of an aircraft powerplant, aircraft aerodynamics, strength and mechanical advantage of systems, including hydraulic, cabin environmental, carburetion, instrumentation. They will understand the application of aircraft finishing, both enamel, lacquer, and dope and fabric coverings, and understand the safety procedures to safely operate aircraft and powerplants for groundoperational checks and servicing.

203-2 Aircraft Aerodynamics. Students will have a knowledge of flight theory and factors affecting aircraft in flight. They will explain and compare aircraft design features in subsonic, transonic, and supersonic aircraft. They will be able to assemble and rig various aircraft control systems, analyzing and correcting faulty flight characteristics.

204-4 Hydraulics (Aircraft). Students will have a knowledge of fluid theory and applied physics which relates to aircraft hydraulics. They will know the theory of operation, maintenance requirements, and adjustments of various hydraulic components and systems. They will be able to test,

inspect, troubleshoot, and service hydraulic systems and overhaul malfunctioning components in accordance with FAA and manufacturers specifications.

205-6 Cabin Environment and Jet Transport Systems. Students will understand the atmospheric variables at different altitudes and the basic equipment required to cope with malfunction in the cabin pressurization and air-conditioning systems. Using the available information, jet transport aircraft and simulated training panels, they will understand the operation of and be able to identify the components of flight control systems, landing gear, fuel, anti-icing, and fire detection systems. They will be able to compare and analyze aircraft systems of current jet transport aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft ground handling, APU operation, and system servicing.

206-3 Metals Processing. Students will be able to make appropriate sheet metal repairs using correct repair procedures, tools, and materials. They will be required to demonstrate correct use of and interpretation of structural repair diagrams and correct interpretation of charts and tables from AC 43.13-1A pertaining to materials and methods.

210-2 Aircraft Electrical Systems. The successful student should have a knowledge of the operation, repair, inspection, and service of small and large aircraft electrical systems, using schematic diagrams and training panels.

211-5 Reciprocating Powerplant. Students will have a knowledge of construction, operation, and timing mechanisms associated with aircraft reciprocating powerplants. They will be able to disassemble, clean, measure, inspect, and reassemble a powerplant to airworthy condition in accordance with appropriate FAA and manufacturers' regulations and practices.

212-5 Carburetion, Lubrication, and Fuel. Students will be able to demonstrate their competence in identifying fuel and oil system components and carburetors, understanding the operating principles of each. They will be able to inspect, adjust, troubleshoot, and overhaul these components according to manufacturers and federal regulations. They will be able to identify the grades of aviation fuels and lubricants and understand the characteristics and uses of each.

213-5 Ignition Systems. Successful students should have a knowledge of the operation, repair, inspection, and service of reciprocation and jet powerplant ignition systems and reciprocating starting system. They will be able to time, overhaul, and troubleshoot the various components of each system.

214-3 Propellers. Students will have a knowledge of the physical laws and design characteristics governing propeller operation. They will be able to identify components, troubleshoot, and adjust fixed and variable pitch propellers. They will maintain fixed pitch propellers, and the governor system for variable pitch propellers in accordance with FAA and manufacturers' standards.

215-5 Powerplant Testing. Students will have an understanding of the correct procedures and precautions to be observed during engine installation, ground operation, and fuel and oil servicing. They will be required to inspect and troubleshoot reciprocating and jet engines for airworthy condition and interpret engine instrument readings to diagnose engine malfunctions.

216-6 Jet Propulsion Powerplant. Students will be able to apply and understand physics laws related to jet powerplants. They will be able to identify and understand the operation of jet engines and their components. They will be able to perform inspection, maintenance repair, troubleshooting, and adjustments of jet powerplants and accessories. They will be able to analyze engine performance and to interpret operational charts, graphs, and tables.

225-6 Aircraft Inspection. Students will be able to perform a 100-hour and an annual inspection of an aircraft. They will demonstrate knowledge of FAR's by checking appropriate AD's, classifying repairs, and pinpointing specific service problems. They will also complete the required maintenance forms, records, and inspection reports required by federal regulations. They will understand and be able to perform inspection under computerized aircraft maintenance programs.

230-6 Powerplant Inspection. Students will be able to perform periodic inspection of powerplants. They will demonstrate their knowledge of FAR and application of FAA AD's, Service Bulletins, and proper use of inspection equipment. They will use knowledge learned in the powerplant curriculum to perform malfunction analysis of powerplant and related systems. Live equipment is used on a return-to-service basis.

301-3 Helicopter Theory and General Maintenance Practice. The student will have indepth knowledge of rotary wing aerodynamics, main and tail rotor systems, rotor blades, primary and secondary controls, and general maintenance practices to include inspection and nondestructive testing. Lecture three hours. Prerequisite: Federal Aviation Administration Airframe and Powerplant Technician license or consent of program coordinator.

302-6 Helicopter General Maintenance Laboratory. The student will perform general maintenance on rotary wing main rotor systems, tail rotor systems, flight and powerplant control systems to include malfunction analysis, tracking, static and dynamic balancing, rigging, and repair. Laboratory six hours. Prerequisite: concurrent enrollment in 301 or consent of program coordinator.

304-3 Helicopter Power Train and Inspection. The student will have indepth knowledge of the operation, function, and inspection of all rotational components of a rotary wing aircraft to

include transmission, gear boxes, drive trains, and drive shafts. Lecture three hours. Prerequisite: 301 or consent of program coordinator.

306-6 Helicopter Power Train Laboratory. The student will perform all functions of overhaul concerned with rotary wing transmissions, gear boxes, and drive trains. The student will demonstrate skill in disassembly, inspection, discrepancy analyzation, reassembly, and non-destructive testing. Laboratory six hours. Prerequisite: concurrent enrollment in 304.

Aviation Management (Major, Courses)

The aviation management major is also designed to build upon technical training in aviation maintenance, flight, avionics technology, air traffic control, aircraft operations support, or other aviation-related fields. The technical training may be gained through Southern Illinois University at Carbondale, other post-secondary institutions, proprietary schools, the military, government agencies (international or domestic), or through government certified flight or maintenance training schools. Students entering the aviation management major are encouraged to complete the requirements of an aviation-related associate degree under the provision of the Capstone option as explained in Chapter 4. As an alternative to an associate degree in aviation, students in aviation management should have aviation-related work experience, internship experience, or technical training. Finally, concurrent enrollment in aviation-related degree programs, internships, or technical training is required for those students not having prior aviation training, experience, or education.

Students who major in aviation management have the opportunity to participate in the following aviation-management-related programs:

- 1. The Federal Aviation Administration approved Airway Science Curriculum at SIUC.
- 2. The Federal Aviation Administration approved Air Traffic Control Cooperative Education Program at SIUC. (Please contact the Division of Advanced Technical Studies, College of Technical Careers for more information regarding these programs.)
- 3. The United Airlines/SIUC Cooperative Education Program in Aviation Flight and Aviation Management

Graduates of the aviation management program obtain professional, technical and management in aviation manufacturing, the airlines, general aviation, military aviation, and government agencies related to aviation.

Bachelor of Science Degree, College of Technical Courses

General Education Requirements.....	46
Requirements for Major in Aviation Management.....	48
Core Requirements: Advanced Technical Studies 364, 416, and two of the following: 332, 383, 421.....	12
Fifteen hours selected from Aviation Management 370, 371, 372, 373, 374, 375, 376, 377, 386, 401.....	15
Twelve hours of internship, independent study, or approved equivalent.....	12
Nine hours of aviation management electives approved by the adviser.....	9
Approved Career Electives	26
Total	120

Courses

250-3 Basic Air Traffic Control. This course provides instruction in basic air control procedures and phraseology used by personnel providing air traffic control services. Students will become fa-

familiar with Federal Aviation Administration handbooks and federal aviation regulations that pertain to the operational responsibilities of an air traffic controller.

370-3 Airport Planning. To acquaint the student with the basic concepts of airport planning and construction, as well as an investigation of various community characteristics and resources.

371-3 Aviation Industry Regulation. A study of the various regulatory agencies of the industry and their functions.

372-3 Airport Management. A study of the operation of an airport devoted to the phases of lighting, fuel systems, field marking, field buildings, hangars, and surrounding community.

373-3 Airline Management. A study of the administrative aspects of airline operation and management including a detailed study of airline organizational structure.

374-3 General Aviation Operations. A study of general aviation operations including fixed base operations (fuel, sales, flight training, charter, etc.), corporate aviation (business aviation, corporate flight departments, executive air fleets, etc.) and the general aviation aircraft manufacturing industry.

375-3 Legal Aspects of Aviation. The student will develop an awareness of air transportation. The course will emphasize basic law as it relates to contracts, personnel, liabilities, and legal authority of governmental units and agencies. Lecture three hours.

376-3 Aviation Maintenance Management. To familiarize the student with the functions and responsibilities of the aviation maintenance manager. Maintenance management at the fixed base operator, commuter/regional airline, and national air carrier levels will be studied. Aviation maintenance management problems areas will be reviewed using the case study method.

377-3 Aviation Safety Management. This course will survey the various aspects of aviation flight and ground safety management. Weather, air traffic control, mechanical and human factors in aviation safety management will be reviewed. Case studies of individual aviation accidents and incidents will be analyzed.

378-3 National Airspace System. This course provides instruction in the national airspace system, its purpose and major components. It defines the Federal Aviation Administration role in the operation, maintenance, and planning of the national airspace system. Prerequisite: 250 and consent of department.

386-3 Fiscal Aspects of Aviation Management. An introduction to the fiscal problems encountered in the administration of aviation facilities.

401-3 Current Issues in Aviation Management. A review of current problems affecting the aviation industry with particular emphasis on resource allocation, planning, and internal and external constraints. Not for graduate credit. Prerequisite: a course in economics or marketing, senior standing, consent of instructor.

Avionics Technology (Program, Major, Courses)

Avionics, or aviation electronics, is a rapidly growing field requiring highly skilled technicians for work in the development, installation, and maintenance of the sophisticated avionics systems required for effective utilization of modern day aircraft by the aviation industry.

The avionics technician finds opportunities for employment with the airline industry, general aviation, and in aircraft manufacturing, where employees will install, maintain, test, and repair airborne communications and navigation systems, airborne radar systems, and related equipment.

All instruction is programmed in a balanced combination of classroom lecture and actual "hands on" laboratory experience under the supervision of instructors who have extensive experience and expertise in their respective fields.

The student will have courses in basic direct current, alternating current, electrical power systems, airborne, auxiliary power systems, electrical generation and distribution, load transfer, solid state devices, aircraft communications and navigation systems, instrumentation systems, and aircraft integrated flight systems, receivers, and transceiver pulse and microwave systems, antenna types, wave propagation and transmission lines, and Federal Aviation Administration and Federal Communication Commission regulations.

In addition to regular University tuition and fees, the student is required to purchase basic tool kits and study material at an approximate cost of \$400.

Executives in the aviation industry constitute an advisory committee which serves the program. The current members are listed under aviation maintenance technology and they serve both programs.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Avionics Technology*

GED 101, 102, 152	9
Technical Careers 105a,b	4
Aviation Maintenance Technology 210	2
Avionics Technology 101, 120, 125, 130, 135, 203, 204, 210, 233, 234, 235, 236, 237, 238	66
Total	79

*To meet Federal and industry requirements, the student should plan to take additional 300-level courses offered as post-associate specialty.

Courses

101-3 Aircraft Systems. An introductory course in aviation primarily designed for the student who has little or no background in aviation, but desires to learn about the aircraft and its systems in use today. The course will cover light, heavy, and rotary wing aircraft found in today's civil fleet.

120-8 Avionics Circuit Analysis. The student will have an understanding of the laws and theories of elementary AC and DC circuits as they apply to avionics, as well as a basic understanding of avionic circuit devices. Various basic circuits and individual components will be analyzed from a theoretical and operational standpoint, utilizing both descriptive and analytical approaches. Lecture eight hours. Prerequisite: concurrent enrollment in Technical Careers 105a and 105b or consent of program coordinator.

125-5 Avionics Laboratory I. The student will be able to demonstrate and apply the theory studied in 120. Laboratory ten hours. Prerequisite: concurrent enrollment in 120 or consent of program coordinator.

130-5 Avionics-Electronics Circuits. This course will introduce the student to the theory of operation of solid state and other electron devices used in analog avionics circuits. Device operation will be analyzed from a theoretical perspective, and applied to circuits for power supplies, amplifiers, and oscillators, with emphasis on applications to avionics equipment. Lecture five hours. Prerequisite: 120 or consent of program coordinator.

135-5 Avionics-Electronics Circuit Laboratory. This course allows the student to apply the theory discussed in 130. Circuits will be constructed and tested under experimental conditions. An emphasis will be placed on troubleshooting circuit problems and in applying logic to isolate and correct circuit malfunctions. Laboratory ten hours. Prerequisite: 125, concurrent enrollment in 130 or consent of program coordinator.

200-4 Electronics for Aviators. Introduces aviation flight students to the fundamental concepts and principles of aircraft, electrical, and electronic systems. Coverage includes direct current and alternating current power generation, control and distribution aboard aircraft, as well as a brief introduction to avionics systems. Emphasis will be placed on analyzing operational parameters and fault detection. Lecture four hours. Prerequisite: none.

203-3 Avionics Shop Practices. The student will study avionics installation requirements, layout procedures and equipment location. They will understand repair station certification, regulations, records, and certification of repairmen. Lecture three hours.

204-3 Avionics Shop Laboratory. The student will make and follow installation drawings or layouts. They will use the equipment and tools requirement to perform avionics equipment installations. Given a list of avionics equipment, they will make the installation, perform acceptance check on the equipment, and fill out required records. Laboratory six hours. Prerequisite: concurrent enrollment in 203 or consent of program coordinator.

210-2 Avionics Electrical Systems. This course will introduce the student to electrical power distribution systems found on all types of aircraft. Upon successful completion of the course, the student will be able to perform operational checks of aircraft electrical systems and diagnose malfunctions in system operation. Lecture one hour. Laboratory two hours. Prerequisite: 120 or consent of program coordinator.

232-10 Avionics-Electronic Circuits. Designed especially for students who have completed the aviation technology program and wish to enter the avionics technology program for a second major. Theory of operation of diode, practical rectifiers, DC to DC converter and airborne audio amplifier system both tube and transistor. Construction of basic avionic circuits and isolation of malfunctioning components. Perform repairs and testing of transistors and tube and tube type of avionic circuitries. Lecture eight hours, laboratory four hours. Prerequisite: Aviation Maintenance Technology 210, Electronics Technology 102, and concurrent enrollment in Avionics Technology 233.

233-5 Aircraft Communication and Navigation Systems Theory. Student will have knowledge of the theory of operation, calibration, and frequency selection of NAY-COM equipment. They will understand transceiver circuitries, closed frequency loop SCR circuits, audio amplifiers, intercom systems, VOR navigation receivers, VOR converter, glide slope receivers, ADF receivers, and marker beacon receivers. They will be able to use avionics manufacturers maintenance and overhaul manuals and FAA regulations. Lecture five hours.

234-6 Avionics Laboratory II. Students will be able to identify systems components. They will be able to operate and calibrate test equipment. They will be able to troubleshoot and repair communication and navigation equipment, and to perform alignment of transceivers, navigation receivers, VOR converter, ADF receivers and marker beacon receivers. They will effectively perform modification and compliance of Service bulletins and FAA Directives. Laboratory twelve hours.

235-6 Flight System Theory. Students will have knowledge of operation and installation of aircraft control, navigation, communication, syncro and servo systems. They will be able to determine if a system meets factory and FAA specifications. They will learn to use technical publications. Lecture six hours.

236-5 Avionics Laboratory III. Students will be able to operate, install, adjust, troubleshoot, and repair automatic pilot, automatic stabilization systems, and integrated flight systems. They will be able to install, adjust, and troubleshoot flux gage compass, gyrosyn directional indicator, rate gyros, RMI repeater and attitude gyros. They will be able to use technical publications. Laboratory ten hours.

237-5 Avionics Logic Circuits and Pulse Systems Theory. Students will be able to analyze the use and operation of logic gates, gate expanders, invertors, flip-flops, shift registers, decade counters and operational amplifiers as used in avionics circuits. They will have knowledge of pulse circuits used in distance measuring equipment and ATC transponders. Lecture, five hours.

238-5 Avionics Laboratory IV. Students will be able to locate, identify, troubleshoot, and repair logic circuits used in avionics equipment. They will be able to test, calibrate, troubleshoot, and repair distance measuring equipment and ATC transponders in accordance with manufacturer and FAA Repair Station Guidelines. Laboratory, ten hours.

302-3 Avionics Laboratory V. Students will be able to conduct avionics loan analysis and perform weight and balance problems. Given a malfunction in an avionic system on the aircraft, they will be able to locate the faulty component, and to perform necessary repairs and to return equipment to airworthy status. Laboratory 12 hours.

303-2 FCC Regulations. The student will have knowledge of FCC requirements for aircraft station licenses, aeronautical ground station and operator's licenses. Lecture 4 hours.

304-4 Avionics Radar System Theory. The student will have knowledge of airborne radar system circuits, and understand the theory of operations of radar antenna system. The student will be able to perform installation, system performance check out, circuit adjustment, trouble shooting, and general repair of the airborne radar system.

320-5 Avionics Flight Line Maintenance. Students will study basic avionics systems, their components, and learn how to perform flight line preventive maintenance and troubleshooting of the systems to the specific malfunctioned unit. The student will learn how to evaluate avionics system performance as dictated by Federal Aviation Administration Regulations and performance criteria as well as the manufacturer's and flight line system testing procedures for selected avionics systems. For non-avionics majors. Lecture five hours.

325-4 Avionics Flight Maintenance Laboratory. Students will demonstrate their understanding of basic avionics systems and system components, and perform flight line preventive maintenance and troubleshooting on selected avionics systems. The student will demonstrate an understanding of the ramp-test criteria of selected avionics systems and the utilization of the appropriate portable test equipment. For non-avionics majors. Laboratory eight hours.

350-4 Microcomputers for Aviation Professionals. Students will demonstrate a basic understanding of microcomputer systems and their utilization as related to the aviation industry. The student will demonstrate a working knowledge of the application of commercially available software such as a word processor, electronic spreadsheet, data base management system, and telecommunications software for aviation professional tasks. Lecture/demonstration four hours.

360-5 Avionics Data Bussing and Electronic Flight Instrument Systems. Students will study current avionics data bussing, glass cockpit display system concepts, and data multiplexing. The student will demonstrate a basic understanding of the control of the microprocessor using machine, mnemonic (assembly), and ADA software languages. Lecture five hours.

365-4 Avionics Data Bussing and Electronic Flight Instrument Systems Laboratory. The student will develop skill in troubleshooting advanced digital, tri-state, buss input/output, CRT display, character generation, and microprocessor buss controller circuits. The student will demonstrate a basic understanding of the control of the microprocessor using machine, mnemonic (assembly), and ADA software languages. Laboratory eight hours.

370-5 Reliability, Maintainability, Fault Prediction and Analysis. Students will demonstrate the ability to understand and perform analysis and prediction of the logistical concepts of reliability, maintainability, and fault prediction and analysis of products and systems. A conceptual understanding of logic symbols, fault tree analysis, and fault criticality as well as logistical management. Lecture five hours.

Biological Sciences (Major)

The biological sciences major consists of courses selected from the Departments of Botany, Microbiology, Physiology, and Zoology. Students selecting biological sciences as their major do not need to take a minor. Besides enrolling in biological sciences courses, students are also required to take courses in chemistry and mathematics. Students should consult their advisers for additional information.

Bachelor of Arts Degree, College of Science

<i>General Education Requirements</i>	46
<i>Supplementary College of Science Requirements</i>	8
Foreign Languages	(4) + 4
<i>Requirements for Biological Sciences</i>	43-45
Physiology 310	5
Biology 305, 306, 307, 308, 309 (any two)	6
Botany 200, 204	8
Microbiology 301, 302	7
Zoology 220a,b	8
Biological sciences electives at 400-level	6
Chemistry 222a,b	(4) + 4
Mathematics 108 and 109 or 111 (or its equivalent) or 140 or 141	(3) + 1-3
<i>Electives</i>	23-25
<i>Total</i>	120

Bachelor of Science Degree, College of Education

Students planning to obtain their degree in the College of Education must satisfy all the requirements of that college. The requirements in biological sciences will be the same as those in the College of Science. Those students desiring to attain a secondary education teaching certificate must also enroll in Curriculum and Instruction 468. See Teacher Education Program, Chapter 3.

Minor

A minor in biological sciences consists of a minimum of 24 hours and may be taken in the College of Education, the College of Liberal Arts, or the College of Science. It must include two of the following biology courses: Biology 305, 306, 307 (6 hours), plus 9 hours selected from the following courses: GEA 312, Botany 200, 204, Microbiology 301, 302; Physiology 410a,b; and Zoology 220a,b or other courses approved by the director of the undergraduate program in biological sciences. The remaining nine hours may be selected from courses offered by the Departments of Botany, Microbiology, Physiology, and Zoology. A student with a major in one of the life sciences may not take a minor in biological sciences.

Biology (Courses)

Courses

210-2 to 6 Biology Field Studies. A trip of from two to six weeks to acquaint students with organisms in various environments or with methods of field study, collection, and preservation. Students will incur costs for food, lodging, and transportation. Prerequisite: consent of instructor.

305-3 Genetics-Classical and Molecular. Broad principles of genetics, including Mendelism, chromosomal behavior, genetic mapping and mutation, Allelism, genes and development, polygenic systems, inbreeding and outbreeding, and genetic applications.

306-3 Cell Biology. The basic functions of the cell are considered. The biochemical basis and mechanisms of the cellular processes, the functions of the subcellular structures, and their ramifications will be explored in the context of plant and animal cells.

307-3 Principles of Ecology. Broad principles of ecology on the organismic, the populations, the community, and the ecosystem level. Includes environmental factors, adaptations, energy and material balance, succession, and human ecology.

308-3 Organismic Functional Biology. Fundamental principles and biological examples of basic phenomena characteristic of organisms, including transport, integration, and reproductive systems. Detailed attention will be given to various organ systems with an emphasis on function.

309-3 Developmental Biology. Principles of development; causal mechanisms, cybernetic and phylogenetic aspects. Lecture course.

315-2 History of Biology. The interrelationships between the development of biological knowledge and the history of the human races.

Black American Studies (Minor, Courses)

The Black American Studies program is a part of the College of Liberal Arts and follows the academic requirements of the College of Liberal Arts as listed in Chapter 3.

The Black American Studies program will plan a program for a special major leading to the Bachelor of Science degree in the College of Liberal Arts. Any student interested in such a program should consult this catalog for an explanation of the special major, and then contact the academic counselor in Black American Studies in order to plan and receive approval for the program.

A minor in Black American Studies consists of a minimum of 20 hours which are to be selected from Black American Studies course offerings and organized according to each individual student's field of interest. An official minor is subject to approval by the coordinator of Black American Studies.

Courses

109-3 Introduction to Black America. A survey course designed to expose the student to various aspects of the black experience. Aspects included are history, literature, theology, the arts, etc. The textbook is a collection of essays designed to use especially in this course and is supplemented by guest lecturers and audiovisual materials.

135-3 The Third World: The African Model. A study of the Third World through a focus on Africa as a model; emphasis on the cultural traditions, the impact of the West, and the problems facing Third World nations today.

209-3 Critical Issues in the Black American Experience. Insights into the black American experience. Concepts including race, ethnicity, class, caste, minorities, prejudice, discrimination will be analyzed. Main focus is on exploration of critical socio-economic, political, and cultural themes such as demographic trends; migration and urbanization, political participation and strategies, income and employment, housing, health, education, black family, black religion, law, and justice. Prerequisite: 109 recommended but not required.

225-3 Social Change in Africa. Examination of the interplay between tradition and modernity in an effort to understand the new Africa. Some of the forces of social change are analyzed. Other topics include African women and the family structure in change and the problems of African development.

230-3 Introduction to Black Sociology. An introductory course which focuses on the concepts of black sociology in order to fill the gaps of "traditional sociology" pertaining to the black experience. Designed to heighten the student's awareness of the black identity and the sociological phenomena which affect it and acquaints the student with specific sociological problems in the study of Afro-Americans. Prerequisite: 109.

257-1 Black American Studies Choir. Prerequisite: consent of instructor.

311-6 (3, 3) Black American History. (Same as History 362.) (a) Black American History to 1865; (b) Black American History since 1865. The role of blacks and contribution in the building of America and the ongoing fight for equality.

314-6 (3, 3) History of Africa. (Same as History 387a,b). (a) History of Africa. A study of West African peoples from earliest times to the present; including the era of kingdoms; the role of Islam; African-European relations; colonialism; and African nationalism. (b) History of East-Central Africa. A study of East and Central African peoples from earliest times to the present; including migrations and kingdoms; African-Arab-European relations, colonialism, and African nationalism.

320-3 Leaders of the Black World. A study of black rulers; governmental representatives; ac-

- tivists; and thinkers; both past and present; in Africa; the West Indies; and the United States, with emphasis on the effects of their philosophies on the black world.
- 330-3 Black American Social Problems.** Comparative study of the social problems which afflict black Americans and other minorities and their consequences; including crime and delinquency, mental and emotional disorders, drug addiction, housing conditions, poverty and unemployment, and labor conditions. Prerequisite: consent of instructor.
- 332-3 Black Americans and the Law.** Focuses on the effect of the American legal system upon the Afro-American from slavery to the present; uses theory and knowledge from the law, history, and sociology; will explain the historical perspectives of specific laws as well as their effect upon the Afro-American.
- 333-4 The Black Family.** Exploring the myths and realities of the black family from sociological and psychological perspectives through a critical examination of scholarly controversies and research. Prerequisite: junior standing.
- 336-4 The Black Personality.** Examines current areas of interest in the study of the psychological characteristics of black Americans. Theoretical and empirical data will be examined. Considers critical issues as cognitive development; self-concept, socialization process and inter- and intra-group relations. Prerequisite: consent of department.
- 339-3 Black Americans and the Correctional Process.** Analysis of selected topics: the prison community and the black inmate; correction education and the black inmate; and the black professional. Prerequisite: 332.
- 345-3 Law and Civil Liberties.** (See Political Science 332.)
- 350-3 Contemporary Black Drama.** Surveys in the works of major and minor writers of contemporary black dramas from *A Raisin in the Sun* to *No Place to Be Somebody*. Explores recent criticism on black theater, and approaches oral and written criticism from the point of view of "black aesthetics." Prerequisite: English 201 or consent of department.
- 355-3 The Black American Novel Since *Native Son*.** The black American novel and its major themes since Richard Wright's *Native Son*. Includes such authors as Baldwin, Petry, Williams, etc. Prerequisite: English 210, English 325, junior standing, or consent of instructor.
- 357-3 Blacks in the Performing Arts.** History of the role of blacks in the performing arts covering dance companies, ballet, folk dance and black dramatists; cinema, in all its forms; radio and television; and music (spirituals, jazz, opera, classics, etc.) Prerequisite: English 325, or consent of department.
- 358-3 Black Theater Workshop.** Designed to train students in the arts of the theater. While major emphasis is placed on acting techniques, opportunities for training in makeup design and oral interpretation are also provided.
- 360-3 Race and History in the United States.** (See History 361.)
- 362-3 The Music of Black Americans.**
- 370-3 Bibliography of Black American Studies.** An introductory survey of black American bibliographic resources course, culminating with students' compilation of a selective, annotated bibliography covering some chosen aspect of the black experience. Prerequisite: junior or senior standing or consent of instructor.
- 380-2 Regional Geography of Subsaharan Africa.** (See Geography 365.)
- 385-4 Myth and Ritual in Archaic Religion.** (See Religious Studies 333.)
- 391-2 Social Services and Minority Groups.** (See Social Work 391.)
- 395-3 Investigative Procedures and Techniques for the Affirmative Action Officer.** Designed to provide students with the basic skill of investigating equal employment opportunities and affirmative action complaints that might be filed by one who feels discriminated against in the hiring process and upward mobility within an agency. Study and research of existing cases filed with FEPC and EEOC.
- 399-3 to 5 Independent Study in Black American Studies.** Independent study which examines problems and issues not covered in a specific course. Hours and subject matter decided during consultation with a faculty member. Prerequisite: consent of instructor.
- 430-3 Black Political Socialization.** Definitive approach to how people learn about politics focusing on blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of department.
- 455-2 to 12 Rehabilitation Services with Special Populations.**
- 465-3 Governments and Politics of Sub-Saharan Africa.** (See Political Science 465.)
- 475-3 Sociological Effects on Black Education.** A teacher-oriented course dealing with up-to-date research in black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with black children. Not for graduate credit. Prerequisite: Education 303 or consent of department.
- 480-4 to 8 (4, 4) Seminar in Black Studies.** Analysis of the black experience directed toward practical contribution in the area studied. Topics vary with instructor. May be repeated once for a total of eight credits provided registrations cover different topics. Topics announced in advance. Prerequisite: Black American Studies 109 or consent of department.
- 490-1 to 3 Cross-Cultural Rehabilitation.** (See Rehabilitation 419.) Not for graduate credit.

199-1 to 5 Special Readings in Black American Studies. Supervised readings for students with sufficient background. Registration by special permission only. Offered on demand. Prerequisite: consent of instructor.

Botany (Department, Major, Courses)

Botany is the science of plant life, which ranges from the microscopic to giant Sequoia trees. You should consider a major in plant biology if you are curious about any of these: the kinds of plants that inhabit the earth; how they grow; why they are found where they are; and how or what products they contribute to the lives of humans.

A career in plant biology offers a number of specialties from which one may choose. This diversity allows people with different backgrounds, aptitudes and interests to find careers to their liking. A person with mathematical background might find systems ecology or genetics exciting fields. Persons with an appetite for the out-of-doors might be happy as an ecologist, forester, plant explorer, or preservationist of rare and endangered species. Those who appreciate detail and beauty found in plant structure would find happiness in cell study, anatomy and morphology. Someone with an interest in chemistry could become a plant physiologist, plant biochemist or molecular plant biologist. Those who find an interest in aquatic microscopic forms will study algae. Those with an interest in fungus organisms become mycologists. Those who enjoy mosses will study bryology. All of these fields offer great opportunities to interact with people and have a wide range of employment opportunity in teaching, research, and government service.

Students planning to major in botany should consult with the chairperson of the department for information concerning the programs in the department.

As a general rule, students who intend to apply for admission to a graduate school to study for an advanced degree in botany should include the following in their undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many botany and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in botany who have an overall grade point average of 3.00 or better and an average in botany courses of 3.25 or better. Honors students should enroll in Botany 492 during some semester in both junior and senior years.

Bachelor of Arts Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	7-9
Foreign Language	(4) + 4
Mathematics 108 and 109 or 111 (or its equivalent), or 140	(3) + 1-3
Physical Sciences (Not General Education)	(4) + 2
<i>Requirements for Major in Botany</i>	42 ²
Biology 305, 306, 307	9
Botany 200, 204, 304, 320	15
Botany Electives	16
Sixteen hours selected from the following with at least one course from each group:	
A. 400, 404, 405, 406, 411, 412, 413, 414, 421	
B. 409, 410, 430, 439, 449, 450, 451, 485	
C. 440, 443, 444, 448	
D. 425a, 425b	
Chemistry 222a,b	(6) + 2 ³

<i>Electives</i>	23-25
Electives planned to include courses in computer science, microbiology, physics, statistics, and zoology	
<i>Total</i>	120

¹The 46-hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.

²Botany requirements satisfy the biological and physical sciences requirements for the College of Science and may be substituted for a maximum of 12 hours in General Education.

³Organic chemistry is recommended for those interested in plant physiology or graduate study.

Minor

A minor in botany consists of a minimum of 16 semester hours, selected from any botany offerings except 160, 257, 258, 259, 390, 391, 462, 490, 491, or 492.

Courses

For all field courses in botany, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

160-3 Integrated Science – A Process Approach. An interdisciplinary science course stressing processes of science; observing, classifying, using numbers, measuring, using space-time relationships, communicating, predicting, inferring, defining operationally, formulating hypotheses, interpreting data, controlling variables, and experimenting.

200-4 General Botany. An introduction to botany. Emphasis is placed on structure and development and associated physiological phenomena. Consideration also is given to basic aspects of plant genetics, classification, evolution, ecology, and conservation. Three lectures and one 2-hour laboratory per week.

204-4 Plant Diversity. An evolutionary approach to the study of major plant groups – algae to flowering plants. Emphasis will be placed on cytology, anatomy, and development. Economic and ecological aspects of various groups as they relate to humans will also be considered. Laboratory will stress principles via hands-on study of selected representatives. Three lectures and one 2-hour laboratory per week. Prerequisite: 200 or consent of instructor.

304-3 Plant Classification. Identification of local flora by use of various manuals. Survey of taxonomy and nomenclature. Every semester. Prerequisite: 200 or equivalent.

320-4 Elements of Plant Physiology. The functions of plants and their relation to the various organs. Two lectures and four laboratory hours per week. Every semester. Prerequisite: 200; organic chemistry or a minor in chemistry.

335-2 Methods in Genetics. Selected organisms and techniques illustrating genetic principle. Two two-hour laboratories per week. Prerequisite: Biology 305 or equivalent.

337-2 Ecology Laboratory. Techniques in vegetation analysis and environmental measurements. One four-hour laboratory per week. Prerequisite: Biology 307 or equivalent.

356-4 Plant Pathology. (Same as Plant and Soil Science 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: 200 or equivalent; 320 recommended.

357-3 Introductory Forest Pathology. A study of the nature and control of tree diseases in forests, nurseries, parks, and streets. Fungal and bacterial diseases are stressed. Two lectures and one laboratory per week. Prerequisite: 200 or equivalent; 320 recommended.

360-3 Introductory Biostatistics. Introduction to basic statistical concepts and methods as applied to biological data. Includes descriptive techniques such as measures of central tendency, variability, hypothesis testing, analysis of variance, and simple linear regression. Computer analysis and report writing will be required.

390-1 to 3 Readings in Botany. Individually assigned readings in botanical literature. Every semester. Prerequisite: consent of departmental chairperson.

391-1 to 4 Special Problems in Botany. Individual laboratory or field work under supervised direction: (a) anatomy, (b) bryology, (c) ecology, (d) morphology, (e) mycology, (f) paleobotany, (g) pathology, (h) photography, (i) phycology, (j) physiology, (k) systematics. Every semester. Prerequisite: consent of departmental chairperson.

400-4 Plant Anatomy. An introduction to cell division, development, and maturation of the structures of the vascular plants. Laboratory. Prerequisite: 200 or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 or consent of instructor.

405-4 The Fungi. A survey of the fungi – their structure, development, relationships, ecological

roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: 200; 204 recommended.

410-3 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: 200 or equivalent, or consent of instructor.

411-3 Morphology of Ferns and Fern Allies. The study of external form, internal structure, and relationships of ferns and fern allies. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

412-3 Morphology of Gymnosperms. The study of external form, internal structure, and relationships of gymnosperms. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

413-3 Morphology of Angiosperms. The study of external form, internal structure, and relationships of the flowering plants. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

414-3 Paleobotany. (Same as Geology 414) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography, and other techniques. One lecture and three laboratories per week. Prerequisite: 200 or equivalent.

425-10 (5, 5) Advanced Plant Physiology. (a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. (b) Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

430-3 Economic Botany. Classification, evolution, domestication, and botanical characteristics of plants useful to people. Every year. Prerequisite: 200 or equivalent.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, Biology 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalent.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: 307 or equivalent.

444-4 Analysis and Classification of Vegetation. Includes concepts and analytical methods pertaining to plant community energetics, nutrient dynamics, succession, vegetation classification and niche theory. Laboratory will include the application of these concepts and methods to field situations. Cost of textbooks and travel fee (\$15) must be incurred by the student. Prerequisite: Biology 307 or equivalent.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

449-2 Elements of Taxonomy. Principles of taxonomy including historical sketch, phyletic concepts, classical and experimental methods. One lecture and three laboratory hours per week. Prerequisite: 304 or equivalent, or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

451-4 Upland Flora. The taxonomy, ecology, and distribution of the natural vegetation in and around upland habitats of the Mississippi Basin. Prerequisite: 304 or consent of instructor.

456-2 Advanced Plant Pathology. A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed

and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

457-2 Advanced Forest Pathology. A survey of recent literature on major forest diseases with emphasis on host-parasite interactions and disease control. Students will develop detailed literature reviews on selected pathology problems and design experiments for solving these problems. Two lectures per week. Prerequisite: 357 or consent of instructor.

462-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Curriculum and Instruction 427.) Specifically designed to develop those cognitive processes and concepts needed by elementary teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

484-3 Palynology. (See Geology 484.)

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

492-2 to 6 Honors in Botany. Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chairperson.

Business (College, Courses)

Courses

259-1 to 6 Internship-Work Experience. Current practical experience in a business or other work directly related to coursework in a College of Business and Administration program and to the student's educational objectives may be used as a basis for granting credit in the college. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the dean before registration. Mandatory Pass/Fail. Prerequisite: College of Business and Administration major (including pre-business) with at least twelve hours with a 2.5 grade point average.

Business Administration (Major, [Graduate only], Courses)

The graduate faculty in business administration, consisting of members of the Departments of Finance, Management, and Marketing and the School of Accountancy of the College of Business and Administration, offers graduate work leading to the Master of Business Administration degree. The MBA program has as its objective the development of professional managers and executives to serve the needs of business and government and to prepare interested graduates for doctoral study. The program has been structured with flexibility so as to serve holders of baccalaureate degrees in business administration as well as those who hold degrees in other disciplines. For a more complete description of the program, refer to the Graduate Catalog.

Courses

410-3 Financial Accounting Concepts. Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, and equity valuations; and income determination is stressed. Prerequisite: Enrollment in MBA program or consent of department; MBA program "computer ability" foundation requirement met.

430-3 Business Finance. An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in MBA program or consent of department; 410, Educational Psychology 506, and MBA program "computer ability" foundation requirement met, or equivalent.

440-3 The Management Process. Analysis of management theories and the administrative pro-

cess. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in MBA program or consent of instructor.

450-3 Introduction to Marketing Concepts. An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in MBA program or consent of department.

451-3 Methods of Quantitative Analysis. (See Mathematics 457.)

452-3 Operations Research. A survey of operations research techniques with emphasis on problem formulation, model building, and model solution. Topics include mathematical programming, waiting-line models, simulation, and design theory. Prerequisite: enrollment in the MBA program or consent of department; 451, Educational Psychology 506, and MBA program "computer ability" foundation requirement met or equivalent.

470-3 Legal and Social Environment. An overview of the legal, social, and ethical dimensions which influence business with particular attention to the role of law as a control factor of society in the business world. Prerequisite: enrollment in MBA program or consent of department.

Business and Administration (Major)

The Bachelor of Science degree program with a major in business and administration is a college-wide degree which is intended for those students with personal and professional goals which cannot be met by one of the existing majors, i.e., accounting, business economics, finance, management, or marketing, available in the college and in addition have an interest in subject areas offered in other schools and colleges of the University. The program requires students to combine interests – business with an outside field – into a unique program. For example, a student with international business interest can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine course work in food and nutrition with business and administration. The outside field, or secondary concentration, would have to be consistent with a specific career objective or personal development plan and at least 20 semester hours must be structured to achieve this objective. Individual programs would be subject to the approval of the dean of the College of Business and Administration.

Bachelor of Science Degree, College of Business and Administration

<i>General Education Requirements</i>	46
<i>Professional Business Core (See Chapter 3.)</i>	40
<i>Requirements for Major in Business and Administration</i>	20-23
Secondary concentration approved by the dean	
<i>Electives</i>	11-14
<i>Total</i>	120

Business Economics (Major)

The business economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis to the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master of Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of postgraduate study.

Bachelor of Science Degree, College of Business and Administration

<i>General Education Requirements</i>	46
<i>Professional Business Core (See Chapter 3.)</i>	40
<i>Requirements for Major in Business Economics</i>	21
Economics 315, 340, 341.....	9
Finance 462 or 463.....	3
Three courses from the following list, two of which must be in economics.....	9
Economics 310, 329, 330, 436, 443, 465, 467	
Accounting 331, 341, 471	
Finance 331, 361, 464	
Management 345, 352, 361	
Marketing 341, 390, 435	
<i>Electives</i>	13
<i>Total</i>	120

Chemistry and Biochemistry (Department, Major [Chemistry], Courses)

The Department of Chemistry and Biochemistry offers three degree programs with a major in chemistry. The first is the Bachelor of Science degree in the College of Science. This degree is for those who wish to prepare for graduate study in chemistry or who will become professional chemists. Students completing this degree program will be certified by the American Chemical Society.

The second is the Bachelor of Arts degree in the College of Science. This program is designed primarily for students who wish to complete a major in chemistry, but who plan to eventually go into other professional areas such as medicine, dentistry, or business.

The third program of study leads to the Bachelor of Science degree in the College of Education. This degree program is administered by the College of Education. It is provided for those students who wish to become secondary school chemistry teachers.

Among the new professions which have arisen because of the increasing complexity and interdisciplinary nature of scientific and technological problem solving is that made up of chemists whose interests are in management, marketing, and production rather than research and development. Students who recognize an early interest in a combined chemistry and business career can plan their programs around the administration option. This is a cooperative program between the Department of Chemistry and Biochemistry and the College of Business and Administration. For further information contact the department chairperson or undergraduate adviser.

No more than a *C* average (2.0 GPA) is required in the major courses to qualify for the degree. However, a student with only a *C* average at the sophomore level will probably have difficulty in the upper-level courses and should seriously consider whether chemistry is a suitable career choice.

If the College of Science foreign language requirement has not been met by high school or proficiency examination credit, it is recommended that German, French, or Russian be taken to satisfy that requirement.

A knowledge of computer programming is recommended for all majors in chemistry.

Students taking a laboratory course will be required to purchase a notebook or a laboratory exercise book costing approximately \$1.50 to \$8.50. All students en-

rolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. The amount assessed will be based on actual replacement costs.

Students wishing more detailed information should contact The Undergraduate Advisor, Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale, Carbondale, IL 62901.

Bachelor of Science Degree, College of Science

CERTIFIED BY THE AMERICAN CHEMICAL SOCIETY

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	6-7
Foreign Language	(4) + 4
Mathematics 108 and 109 or 111	(3) + 2-3
Biological Sciences (not general education)	(6) ¹
<i>Requirements for Major in Chemistry</i>	67-69
Chemistry 222a,b; 226a,b; 344 and 345; 346 and 349; 380b or 451a; 411; 434; 465a,b,c, and 466a,b; 396 or 496. In addition one course from among 436, 446. The total hours must be at least 49	49-51
Mathematics 150, 250, and 251, and 305 or 221	14
Physics 205a,b and 255a,b	(4) + 4
Foreign Language	(8) ²
<i>Electives</i>	0-1
<i>Total</i>	120-123

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.
²German, Russian or French recommended.

Bachelor of Arts Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	6-7
Foreign Language	(4) + 4
Mathematics 108 and 109 or 111	(3) + 2-3
Biological Science (not general education)	(6) ¹
<i>Requirements for Major in Chemistry</i>	59-60
Chemistry 222a,b; 226a,b; 344 and 345; 346 and 349; 380b or 451a; 411; 434; 465a,b and 466a	40-41
Mathematics 150, 250, and 251, or 305 or 221	11
Physics 205a,b and 255a,b	8
<i>Electives</i>	7-9
<i>Total</i>	120

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.

Bachelor of Science Degree, College of Education

<i>General Education Requirements</i>	46 ¹
Must include GEB 114, 202, and 301; GEC 213; GED 101, 102 and 152 or 153; GEE 201 and two hours of physical education activity courses.	
<i>Requirements for Major in Chemistry</i>	42-48 ²
Chemistry 222a,b; 226a,b; 344 and 345 plus 346 and 349; 462a,b or 460	(4) + 24-30
Mathematics 111 or 108 and 109, 150, 250 and 251 or 305	

recommended (251 is prerequisite to Chemistry 462a,b)	(3) + 13
Physics 203a,b and 253a,b or 205a,b and 255a,b	(3) + 5
Modern foreign language recommended	
<i>Professional Education Requirements</i>	28
See Teacher Education Program, Chapter 3. Secondary education majors must take a special methods course. Curriculum, Instruction and Media 468 fulfills this requirement.	
<i>Electives</i>	0-6
<i>Total</i>	120-121

¹Refer to Professional Education Experience for General Education courses which may be required.

²Chemistry majors must complete a minor in mathematics. Students wishing to qualify for teaching mathematics in the secondary schools should take, in addition, Mathematics 311, or 319 and 319e, or 352 and 352e.

Minor

The minor in chemistry requires a minimum of 16 semester hours including 222a,b. Elective courses must be selected with at least one course in each of two different areas of chemistry. Recommended courses are 226, 380a,b, 465a.

Courses

115-3 Introductory General Chemistry. A preparation for 222a for students without a year of high school chemistry or for those who feel their background is inadequate. The course concentrates on many of the topics of 222a, but at a lower level. Emphasis is placed on elementary concepts, dimensional analysis, and problem solving skills. A calculator with scientific notation is required. Three lectures per week, except that every other week a three hour lab is substituted for one of the lectures that week. Prerequisite: one year of high school algebra or the equivalent.

140-8 (4, 4) Chemistry. A two-semester course of general, organic, and biological chemistry designed to meet the needs of students of nursing, dental hygiene, physical therapy, other allied health programs, agriculture, forestry, home economics and other majors with comparable requirements. This course does not satisfy prerequisite requirements for other courses offered by the Department of Chemistry and Biochemistry. It is not applicable to a major or minor in chemistry. Three lectures and one three-hour laboratory per week. Must be taken in a,b sequence.

222-8 (4, 4) Introduction to Chemical Principles. For students majoring in scientific, preprofessional, engineering, or technological programs. Atomic structure, molecular structure and bonding, stoichiometry, properties of gases, liquids and solids, thermodynamics and kinetics, chemical equilibria, pH, electrochemistry. Three lectures and one three-hour laboratory per week. Must be taken in a,b sequence. The student will need a calculator with log and inverse log capability (base 10 or base e). Prerequisite: one year of high school chemistry; or 115; two years of high school algebra or concurrent enrollment in GE-D 107.

222C-3 Introduction to Chemical Principles. Students in the College of Engineering and Technology may take 222c instead of 222b. The three lectures per week are the same as for 222b but there is no laboratory work for 222c. This course, 222c, cannot be used to satisfy a 222b prerequisite. The student will need a calculator with log and inverse log (base 10 or e) capability. Prerequisite: 222a and registration as an engineering major.

226-5 (3, 2) Introduction to Quantitative Chemical Principles. Fundamental concepts of quantitative chemical analysis emphasizing classical techniques such as gravimetry, colorimetry, and titrimetry. Chemical aspects of solubility, equilibria, competitive reactions, etc., are related to practical analysis of real samples. Major emphasis is placed on development of the proficient laboratory skills required for accurate and precise analysis. For a, two lectures and a three-hour laboratory per week; for b, one lecture and a three-hour laboratory per week. A reasonable knowledge of logarithms and algebra is assumed; a calculator with log/inverse log capability is required. Must be taken in a,b sequence. Prerequisite: for a, 222b; for b, 226a.

344-3 Organic Chemistry I. The chemistry of carbon compounds. A course for chemistry and other science majors including premedical students and others requiring a year of organic chemistry. Three lectures per week. Prerequisite: 222b and concurrent enrollment in 345.

345-2 Organic Chemistry Laboratory I. Techniques for studying organic reactions. Two three-hour laboratories per week. One hour of the laboratory period will be used for discussion. Prerequisite: 222b and concurrent enrollment in 344.

346-3 Organic Chemistry II. The organic chemistry of functional groups including compounds of biological interest. Three lectures per week. Prerequisite: 344 and 345 and concurrent enrollment in 347 or 349.

347-2 Organic Chemistry Laboratory II. A laboratory for those majoring in sciences other than chemistry and for premedical students. Synthesis and reactions of organic compounds, in-

cluding those of biological interest. Two three-hour laboratories per week. Prerequisite: 344 and 345 and concurrent enrollment in 346.

349-2 Organic Chemistry Laboratory III. A laboratory course for chemistry majors. Synthesis and structural identification of organic compounds, with emphasis on instrumental procedures. Two three-hour laboratories per week. One hour of the laboratory period will be used for discussion. Prerequisite: 344 and 345 and concurrent enrollment in 346.

380-8 (4, 4) Introductory Organic and Biological Chemistry. (a) Survey of basic elements of organic chemistry. Three lectures per week, plus seven laboratory/lecture and seven three-hour laboratories per semester. Prerequisite: 222b. (b) Survey of basic elements of biochemistry. Three lectures per week, plus seven laboratory/lecture and seven three-hour laboratories per semester. Prerequisite: 380a or 346. This course does not satisfy the prerequisite requirement for any other course in chemistry or biochemistry.

396-4 (2, 2) Chemical Problems. Chemical investigations under the direction and supervision of a faculty member. Prerequisite: consent of instructor and four semesters of chemistry laboratory.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds, and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 465a or concurrent enrollment.

416-3 X-Ray Crystallography. (See Geology 416.) Prerequisite: 222b, one year of college physics and Mathematics 150.

431-4 Environmental Analytical Chemistry. Practical applications of common instrumental and wet methods to the determination of chemical substances in common natural and commercial materials. Techniques will include titrimetry; quantitative transfer of liquids and solids; gas, thin-layer and ion-exchange chromatography; atomic absorption; flame photometry; ion selective electrode potentiometry; and spectrophotometry. The course is intended for senior-level and graduate students in disciplines other than chemistry who desire to know the practical aspects of laboratory measurements. The course is not applicable to a major in chemistry. One lecture, one laboratory-lecture, and two three-hour laboratories per week. Prerequisite: 222a,b or nine hours of chemistry excluding general education courses.

434-2 or 4 Instrumental Analytical Chemistry. Theory and practice of modern instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week for four credits. Enrollment for two credit hours is restricted to graduate students in the Department of Chemistry and Biochemistry advised to take instrumental analysis. Prerequisite: one semester of physical chemistry or concurrent enrollment in 465a.

436-3 Analytical Separations and Analyses. A study of the analyses of complex materials, usually inorganic, with emphasis on separations, functional-group chemical analyses, and instrumental applications. Two lectures and one three-hour laboratory per week. Prerequisite: 226 and one semester of physical chemistry which may be taken concurrently.

444-3 Intermediate Organic Chemistry. Intended for incoming graduate students and advanced preprofessional students. Provides students with intermediate level coverage of organic reactions, mechanisms, syntheses, and structure of determination. Emphasis will be placed on problem solving, including structure elucidation, road map sequences, multistep synthetic sequences, and elucidation of reaction mechanisms including those with stereochemistry and multiple sites of reactivity. Prerequisite: 344, 346, or equivalent and consent of instructor.

446-4 Qualitative Organic Analysis. A systematic study of the separation and identification of organic compounds. Two lecture and six hours of laboratory per week. Prerequisite: 226 and either 346 and 349 or consent of instructor.

451-6 (3, 3) Biochemistry. (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function, and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.

455-4 Biochemistry Laboratory. Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 226 or concurrent enrollment; graduate standing in the Department of Chemistry and Biochemistry or consent of the instructor.

465-9 (3,3,3) Physical Chemistry. A three semester sequence of physical chemistry. Three lectures per week. (a) Classical thermodynamics, its applications, and reaction kinetics. (b) Quantum chemistry and group theory. (c) Spectroscopy and statistical mechanics. To be taken an a,b,c sequence. Prerequisite: (a) Mathematics 250; (b) Mathematics 305 or 221 (c) 465b.

466-2 (1,1) Physical Chemistry Laboratory. A two semester laboratory sequence for 465. One three hour laboratory per week per semester. (a) Experiments relating to topics covered in 465a. Prerequisite: 465a. (b) Experiments relating to topics covered in 465b,c. Prerequisite: 465b.

489-1 to 3 Special Topics in Chemistry. Prerequisite: consent of instructor and of chairperson.

490-2 Chemical Literature. A description of the various sources of chemical information and

the techniques for carrying out literature searches. Two lectures per week. Prerequisite: 346 and 347 or 349.

491-2 History of Chemistry. The evolution of chemistry from ancient times until 1920. Two lectures per week.

496-1 to 8 Undergraduate Research (Honors). Introduction to independent research under the direction of a faculty member culminating in a written report. Not for graduate credit. Prerequisite: a 3.0 grade point average, five semesters of chemistry laboratory including one semester of physical chemistry, consent of instructor and department chairperson.

Cinema and Photography (Department, Major, Courses)

The major in cinema and photography provides undergraduate students with experience and background in the history, theory, and practice of cinematic and photographic communication and expression. The program is structured to make available a foundation for professional, fine arts, and educational careers in cinema and photography; to explore the social, critical, and ideological implications of still and motion pictures; and to provide opportunities for study of and experimentation with both cinema and photography as media for communication and personal expression.

The major requires a minimum of 38 hours in cinema and photography coursework, including the required courses in the department. Students may tailor coursework selection to meet specific areas of emphasis: cinema production, cinema studies, fine arts photography, professional photography, photojournalism.

Students are urged to declare their major as soon as possible. To be admitted to the major, a student must have a grade point average of *C* or better. In order to remain in the major, each student must maintain an overall grade point average of at least a *C* and at least a *C* average for all cinema and photography coursework. Grades below *C* in cinema and photography courses will not be accepted as fulfilling minimum major requirements. Cinema and photography courses in which students have received grades of *D*, *F*, *AU*, or *INC* may not be used to satisfy prerequisite requirements for other cinema and photography courses.

Courses in cinema and photography have limited enrollment, especially advanced courses. Not all courses are offered each semester. Admission to certain cinema and photography courses is restricted, and permission must be obtained prior to registration. Permission to register for some courses is based upon submission of photographic portfolios or films. Students are encouraged to plan their course scheduling well in advance to ensure necessary prerequisites and fulfillment of major requirements.

Students may design their own programs of study within the requirements for graduation. The department recommends that students choose an area of emphasis to give a sense of direction to their studies. Students interested in cinema production are encouraged to enroll in 349, 355, 356, 360, 368, 452, 455 and 456, 470b, 472, and nine hours of cinema history courses; cinema studies, 349, 355, 356, 360, 368, 449, 462, 463, 466, 467, 468, 470a, and 499; fine arts photography, 310, 311, 320, 322, 401, 402, 420, 421, 422, 425, 426, 470c and 471; professional photography, 310, 311, 320, 322, 401, 402, 404, 405, 406, 407 and 408; photojournalism, 310, 311, 320, 322, 407, 408 and Journalism 300, 310, and 311.

Cinema and Photography 499 or its equivalent is required of all majors who have not completed 320 and 322 and optional for others. This senior thesis will consist of the preparation of a film, screenplay, research or critical paper under the supervision of a cinema and photography faculty member. A copy of the thesis is to be provided for the department by the student.

Students with an interest in cinema studies may earn credit toward their Southern Illinois University at Carbondale degree by studying at the Inter-University Center for Film and Critical Studies in Paris. Information about the program is available from the department.

Students provide photographic materials for all cinema and photography production courses. In still photography production courses, students supply their own film, photographic paper, certain specialized chemicals, and a fully adjustable 35mm or 120 roll film camera. Some students have found that owning additional items of equipment is advantageous. A fee for laboratory materials is charged for each still photography production course in which the student enrolls. In cinema production courses, students provide their own film, processing, recording materials, and editing supplies. In courses which involve the screening of a number of films, there is a \$10 screening fee.

The University reserves the right to retain examples of the work of each student in each photography class, to make and retain prints of all films made as part of course work other than thesis, and to retain copies of student papers. Such photographs, films, or papers become part of a permanent departmental collection.

No more than nine hours from a combination of the following courses may count toward the first 38 hours in the cinema and photography major: 491, 495, 497.

Electives, required for the major in cinema and photography, are defined as coursework outside the minimal General Education requirements and not offered for major credit in the department. There is no required minor.

Bachelor of Arts Degree, College of Communications and Fine Arts

<i>General Education Requirements</i>	46
<i>Requirements for Major in Cinema and Photography</i>	38-54
Either Cinema and Photography 310 and 311 or 360 and 368	6
Either Cinema and Photography 320 and 322 or 355 and 356	8
Cinema and Photography courses numbered 400 to 499	24
Must include 499 or its equivalent if 320 and 322 have not been taken.	
Cinema and Photography electives	0-16
<i>Electives</i>	20-36
<i>Total</i>	120

Courses

- 257-1 to 6 Work Experience.** Used to recognize concurrent work experience related to the student's educational objective. One to six hours of credit may be applied toward graduation requirements following departmental evaluation and approval. Prerequisite: consent of the department.
- 258-1 to 6 Work Experience.** Used to recognize past work experience related to student's educational objectives. One to six hours of credit may be applied toward graduation requirements following departmental evaluation and approval. Student must apply for this credit during first year as declared major. Prerequisite: consent of department.
- 310-3 History of Still Photography.** A survey of the important images, ideas, people, and processes that make up the history of still photography. Covers from 1839 to the mid-twentieth century. Students purchase texts.
- 311-3 Contemporary Photography.** A survey of contemporary photographers, their concepts, and the influences of their work upon culture. Covers from mid-twentieth century to the present. Students may be required to purchase texts. Completion of 310 may be helpful, but is not required.
- 320-4 Basic Photography.** An introduction to black and white still photography; its materials, processes, and vision. Designed to give technical knowledge and to explore visual perception. Students must have fully adjustable camera, may purchase texts, and will supply own materials and some chemicals. Laboratory fee: \$15.
- 321-3 Intermediate Black and White Photography.** Continuation of the exploration of vision and craft in black and white photography begun in 320. Concentration on idea development with the objective of producing a portfolio demonstrating unique vision. Students supply materials and some chemicals, may purchase texts. Laboratory fee. Prerequisite: 320 and consent of department.
- 322-4 Color Photography.** Introduction to color still photography, its materials, processes, and vision. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 320 or equivalent and consent of department.
- 349-3 The Cinema.** The cinema as a communicative and expressive media. Study of film types illustrated by screenings of selected films. Screening fee: \$10.
- 355-4 Film Production I.** Basic techniques for filmmaking. Production of Super 8 motion pic-

tures. Students purchase texts, film stock and processing. Requires access to Super 8 camera and cassette recorder. Non-majors by consent of department.

356-4 Film Production II. Techniques of 16mm double system sound film production. Production of films by individuals or crews. Students purchase texts, film stock, processing, sound materials and laboratory services. Prerequisite: 355 and consent of department.

360-3 Film Analysis. The relationships among structure, style and meaning in all types of films. Screening fee: \$10. Students purchase texts.

368-3 Introduction to Cinema Theory. A survey of cinema theories propounded by figures such as Münsterberg, Arnheim, Eisenstein, Bazin, Kracauer, and important modern theorists. The course covers the wide range of major attempts to derive the essence of cinema. Films that exemplify or raise theoretical issues are screened. Screening fee: \$10. Students purchase texts. Prerequisite: 360.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 322 or concurrent enrollment and consent of department.

402-3 Sensitometry. An advanced course dealing with the technical and visual applications of the black and white process. Explores the zone system, density parameter system, and practical chemistry. Also deals with the visual application of these systems. Laboratory fee: \$15. Prerequisite: 320 and consent of department.

404-3 Introduction to the Studio. Problems and possibilities in the aesthetics and techniques of studio photography: lighting, visual perception, environment, history, theory. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 or consent of department.

405-3 Applied Photography I. Theory and practice of contemporary commercial/industrial photography. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

406-3 Applied Photography II. Practice and ideas of advertising/illustrative and editorial photography. Students purchase materials and may purchase props, texts, and equipment. Laboratory fee: \$15. Prerequisite: 405 and consent of department.

407-3 Photography and the Mass Media. Exploration of the use, context, and meaning of photography in the mass media. The photograph as a communications tool will be evaluated along with the role and responsibility of the photojournalist. Students will apply theoretical concepts through group and individual assignments. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

408-3 Documentary Photography: Method, Format, and Distribution. Exploration of the techniques, history, and contemporary context of documentary photography. Audience, publication, and distribution of documentary projects will be addressed. Each student will produce an in-depth documentary photographic project. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 322 and consent of department.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students provide materials and may be required to purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 or consent of department.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Dye Transfer, Kwik Proof, and other forms of photo-mechanical reproduction. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

423-3 Reconstruction of Color. A study of the principle of color separation in photography as it relates to the processes of dye transfer, silkscreening, lithography, letter press, etching, and other reproduction processes. Students purchase texts and provide photographic materials and chemicals. \$15 cost for additional laboratory materials. Prerequisite: 322.

425-3 to 9 Studio Workshop. An intensive workshop focusing on current trends in photography. Topics have included landscape photography, architectural photography, environmental portraiture, and imagemaking, among others. Students provide photographic materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 or consent of department.

426-3 Non-Silver Photography. Intensive introduction to hand-applied emulsions of cyanotype, vandyke brownprinting, gum printing, etc. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

449-3 Survey of Film History. Intensive study of major historical periods of the cinema, including technological developments, national cinema movements, sociological and aesthetic determinations, and concerns of film historiography. Prior completion of 349 and 360 is strongly recommended for cinema and photography majors. Screening fee: \$10.

452-3 Film Planning and Scripting. The screenplay as a basis for production. Practice in preparing film plans, treatments, storyboards, and scripts. Examination of the film industry. Prerequisite: 355 or consent of department.

- 454-3 Animated Film Production.** Practical course for visual expression exploring various animation techniques: developmental, filmographic, rear lit, cut out, line, cel, etc. Students purchase texts, art supplies, film materials, and processing. Prerequisite: 355 and/or consent of department.
- 455-3 Film Production III.** Advanced production by individuals or crews of 16mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting, and double system sound filming. Students provide film stock, processing and sound materials. Prerequisite: 356, 452 or consent of department.
- 456-3 Film-Production IV.** Continuation of 455 through post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures and distribution. Students provide editing and sound materials and are responsible for laboratory costs. Prerequisite: 455 and consent of department.
- 462-3 History of the Documentary Film.** Study of the development of the non-fiction film with emphasis on the documentary. Screening fee: \$10. Students purchase texts.
- 463-3 History of the Experimental Film.** Study of experimentation in cinema from the turn of the century to contemporary avant-garde films. Student purchase texts. Screening fee: \$10.
- 465-3 History of the Animated Film.** Study of the history, techniques, and aesthetics of the graphic/animated film. Students purchase texts. Screening fee: \$10.
- 466-3 to 6 (3, 3) Film Styles and Genres.** Intensive study of specific body of films grouped by similarities in style, genre, period and cultural origin. Emphasis of historical, theoretical, and critical issues. Topics vary each semester. Sample topics: the Western; the French new wave: Third World cinema: Surrealism in film. Screening fee: \$10.
- 467-3 to 6 (3, 3) Film Authors.** Intensive study of the work of one or more film authors (directors, screenwriters, etc.). Emphasis is on historical, theoretical, and critical issues. Topics vary each semester. Sample topics: the films of Alfred Hitchcock, the films of Jean Renoir. Screening fee: \$10.
- 468-3 Advanced Film Theory and Analysis.** An intensive study of contemporary film theory with an emphasis on the application of analytic models. Focus is on structural, semiotic, and psychoanalytical theory of the cinema, and the textual analysis of specific films. Screening fee: \$10. Prerequisite: 368 or graduate standing.
- 470-3 to 9 (3, 3, 3) Advanced Topics.** An advanced course concentrating on special topics in cinema and photography. (a) Advanced studies in cinema history/theory. Topics offered have been the information film, feminist and ideological criticism of film. (b) Advanced topics in film production. Topics offered included motion picture sound workshop, narrative film workshop. (c) Advanced studies in photography. Topics offered have included publication and presentation, the figure, multi-image, fantasy photography among others. (d) Advanced studies in interdisciplinary topics. Not more than six semester hours may be counted for graduate credit. Screening fee for a): \$10. Laboratory fee for c): \$15. Prerequisite: consent of department.
- 471-3 to 6 (3, 3) Problems in Creative Production: Photography.** Conceptual exercises involving different aspects of photographic production. Emphasis is placed upon individual creative response to assignments. Topics vary; may be repeated for a total of 6 credits. Students provide photographic materials and chemicals and may purchase texts. Prerequisite: 322 and consent of department.
- 472-3 to 6 (3, 3) Problems in Creative Production: Cinema.** An intensive examination, through readings, screenings, and filmmaking, of a cinematic genre, style, movement, or technical challenge. Theory is combined with practice, resulting in a group film production. Previous problems studied have been the pseudo-documentary, 35mm filmmaking, and film as performance. Topics may vary; may be repeated for a total of 6 credits. Prerequisite: consent of department.
- 491-1 to 9 Individual Study in Cinema or Photography.** Research in history, theory or aesthetics. Usually taken 3, 3, 3. Not more than 9 semester hours of 470, 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department.
- 492-1 to 3 Practicum.** Practical experience in the presentation of photographic theory and procedures. Does not count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.
- 495-1 to 12 Internship in Cinema or Photography.** Credit for internship with professional film or photographic units. Not more than 9 semester hours of 470, 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.
- 497-1 to 9 Projects in Cinema or Photography.** Individual or crew projects in motion picture production or still photography. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department.
- 499-4 Senior Thesis.** Preparation of a film, critical or research paper under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Students interested in producing a film for 499 should have completed 355, 356, 368, 452, and nine hours of cinema history courses. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

Civil Engineering and Mechanics (Department, Major [Civil Engineering], Courses)

The Department of Civil Engineering and Mechanics offers a program leading to a Bachelor of Science degree in civil engineering (see civil engineering).

The civil engineering curriculum is designed to give the student a foundation in the basic principles used in the practice of civil engineering and how these principles are applied both in theory and design. Civil engineering is often called a people-serving profession. This program prepares the student to work in a wide range of civil engineering career options.

CIVIL ENGINEERING MAJOR

Civil Engineering is broad in scope, and it encompasses a number of technical disciplines. A civil engineer may deal with research, planning, analysis, design, construction, operation and maintenance of buildings; bridges; dams; harbors; water and power facilities; water works; sewage, nuclear and toxic waste disposal facilities; transportation systems such as highways, railways, waterways, airports and pipelines. The Civil Engineering program leading to the Bachelor of Science degree at SIU-C is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, the recognized agency for accrediting engineering curricula in the United States. The program is designed to provide the students with the broad educational background essential to modern Civil Engineering practice with training in specialized areas of engineering mechanics, environmental engineering, geotechnical engineering, hydraulic engineering and water resources, and structural engineering.

Bachelor of Science Degree, College of Engineering and Technology

General Education Requirements 31¹

GEA: Substitute basic sciences

GEB: GEB 105, 301, and one of the following: GEB 108, 114, 202
or 211 9^{2,3}

GEC: Select one of the following: GEC 101, 102, or 208; plus

GEC 122 and 345, or GEC 330 and 345 9^{2,3}

GED: GED 101, 102; 152 or 153 and substitute mathematics 9

GEE 4

Requirements for Major in Civil Engineering 103

Basic Sciences 18³

Physics 205a,b; 255a,b 8

Chemistry 222a,c 7

GEA 115 3

Mathematical Analysis 17

Mathematics 150, 250, 251, and 305 14

Engineering 351 3

Civil Engineering 68

General: Engineering 102, 222, 361; Civil Engineering
480; Mining Engineering 320 10

Engineering Sciences 32

Engineering 260a,b, 300, 311, 313, 335 17

Civil Engineering 312, 314, 321, 340, 413⁴, 415⁵, 444⁶.. 15

Engineering Design 18

Civil Engineering 413⁴, 415⁵, 442, 444⁶, 483 12

A minimum of 6 semester hours of design electives to be chosen from Civil Engineering 409⁷, 419⁵, 421⁵, 427⁷, 441⁷, 445⁵, 446; Mechanical Engineering 416⁷ 6

Technical Electives 8

Technical electives, including the unused hours of design electives, to be chosen from an approved list.

Total 134

1Courses required for the major will apply toward 15 hours of General Education making a total of 46 in that area.
2Engineering requirements for GEB and GEC are more restrictive than those of the University as a whole.
3Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the General Education requirements for engineering students.
4This course is used for one and one-half semester hours of engineering science and one and one-half semester hours of engineering design for a total of three semester hours.
5This course is used for one semester hour of engineering science and two semester hours of engineering design for a total of three semester hours.
6This course is used for one-half semester hour of engineering science and two and one-half semester hours of engineering design.
7This course is used for two semester hours of engineering science and one semester hour of engineering design.

Courses

Safety glasses, a hand-held scientific calculator, and textbooks are required of all civil engineering students.

- 312-3 Materials of Construction.** Introduction of cements and aggregates; production and evaluation of concrete structures; mechanical properties of steels and timber; mixing and evaluation of pavement materials; testing of asphalt and masonry. Prerequisite: Engineering 311.
- 314-3 Introduction to Environmental Pollution.** Basic engineering aspects of water pollution and control. Problems, sources, and effects of pollution. State and federal water quality standards. Water and wastewater treatment analyses. Laboratory supply fee \$15. Prerequisite: Chemistry 222c.
- 321-3 Soil Mechanics.** Physical and mechanical properties of soils, flow through soils, effective stresses, consolidation, shear strength, soil improvement, lateral earth pressures. Prerequisite: Engineering 222 and 311.
- 340-3 Structures.** Loads. Types of structures. Structural materials. Safety. Analysis of statically determinate beams, trusses, and frames under static loads. Influence lines. Moving loads. Cables. Arches. Space trusses. Deflection of beams, trusses, and frames. Moment distribution for beams. Prerequisite: Engineering 311.
- 409-3 Hydrology and Hydraulic Engineering Design.** Study of the hydrologic cycle. Stream-flow analysis. Unit hydrograph. Matrix methods; synthetic methods. Frequency analysis; multivariate distributions. Hydrologic and hydraulic routings. Groundwater hydrology. Application of hydrology to the design of various hydraulic structures: small dams, spillways, drainage systems. Prerequisite: Engineering 222, 313 or equivalent or consent of instructor.
- 410-3 Hazardous-Waste Engineering and Management.** Analysis of hazardous waste generation, storage, shipping, and disposal. Design of disposal systems. Relating hazardous-waste disposal techniques and management with governmental regulations. Prerequisite: 314, Engineering 300.
- 413-3 Fluid Systems Design.** Two to three week projects involving the identification, modeling, analysis, and design of fluid-engineering systems. Prerequisite: Engineering 222, 313.
- 414-3 Intermediate Fluid Mechanics.** A development of the governing equations of motion including the continuity, Navier-Stokes, and energy equations. Application of these equations to potential, viscous, and compressible flows. Isentropic flow of a perfect gas. Normal and oblique shock waves, Prandtl-Meyer flow. Prerequisite: Engineering 313 or equivalent.
- 415-3 Wastewater Treatment.** A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards. Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes; reuse of wastewater. Concurrent enrollment in 417 is recommended. Prerequisite: 314 and Engineering 313.
- 417-1 Water Quality Laboratory.** Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Laboratory supply fee \$15. Prerequisite: 314.
- 419-3 Water Supply and Treatment.** Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems, and treatments). Prerequisite: 314 and Engineering 313.

421-3 Foundation Design. Application of soil mechanics to the design of the foundations of structures; bearing capacity and settlement analysis; design of shallow footings; stability of earth slopes; design of retaining walls, design of pile foundations, coffer dams. Prerequisite: 321.

427-3 Physical and Chemical Treatment in Environmental Engineering. Physical and chemical treatment as applied to water and wastewater. Topics include coagulation, flocculation, sedimentation, adsorption, ion exchange, and oxidation in dilute aqueous systems. Design of systems. Laboratory. Prerequisite: 314, 415.

440-3 Statically Indeterminate Structures. Analysis of trusses, beams, and frames. Approximate methods. Method of consistent deformations. Three-moment theorem. Slope deflection. Moment distribution. Column analogy. Plastic analysis. Matrix methods. Prerequisite: 340.

441-3 Intermediate Vibrations and Design. Theory: Review of second order ordinary linear differential equations. Matrices and determinants. Phasor and trigonometric solutions, Duhamel integrals, Fourier Series. Applications: equipment mounts, deflection of rotating shafts, resonance, vibration absorbers, vibrometer and accelerometer design, analysis of accelerometer and vibrometer data, seismic design loads on buildings, vibration linkages. Prerequisite: Engineering 222, 260b, 311 and Mathematics 305.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Design project and report required. Prerequisite: 340.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 340.

445-3 Reinforced Masonry Design. Materials. Loads. Walls. Columns and pilasters. Beams. Lateral-load resisting elements. Connections and joints. High-rise structures. Environmental features. Quality control. Design project and report required. Prerequisite: 444.

446-3 Prestressed Concrete Design. Fundamental concepts of analysis and design. Materials. Flexure, shear, and torsions. Deflections. Prestress losses. Composite beams. Indeterminate structures. Slabs. Bridges. Prerequisite: 444.

447-3 Intermediate Mechanics of Materials. Torsion of noncircular shafts. Unsymmetric bending problems. The shear center. Yield theories and plastic material behavior. Fatigue and brittle fracture. Energy methods in solid mechanics. Design of members to resist yielding and fracture. Prerequisite: Engineering 222 and 311.

448-3 Experimental Stress Analysis. Development of theoretical equations of stress and strain and their transformations. Equations of equilibrium; compatibility equations; stress functions; applications of these equations in stress measurements; study of optical, mechanical, and electrical strain gauges; brittle coating; Moiré' technique; and two-dimensional photoelasticity. Laboratory supply fee \$10. Prerequisite: Engineering 311.

449-3 Intermediate Dynamics. Kinematics and kinetics of plane and three-dimensional motion. Principles of work and energy applied to the motion of rigid bodies. Principle of impulse-momentum applied to variable mass and rigid body systems. Space mechanics. Prerequisite: Engineering 222, 260, Mathematics 305.

451-3 Introduction to Finite Elements in Engineering Applications. (Same as Engineering Mechanics 451.) Introduction to finite element techniques and computer methods in finite element applications. Theory and structure of algorithms for one-dimensional and multi-dimensional problems. Introduction to boundary element methods. Applications in solid mechanics, structural analysis, groundwater flow, and heat transfer. Prerequisite: Engineering Mechanics 351 or equivalent.

456-3 Introduction to Composite Materials. Different types of composite materials, micro and macro mechanics of lamina, lamination theory, strength and failure theories, moisture and temperature effects, interlaminar stresses, design and composite laminates involving selection of materials and stacking sequence. Prerequisite: Engineering 222, 311, and 312.

458-3 Photoelasticity. Optics related to photoelasticity; theory of photoelasticity; photoelastic materials; analysis techniques; two-dimensional and three-dimensional photoelasticity; birefringent coatings; scattered light photoelasticity; application of photoelastic methods. Laboratory. Prerequisite: Engineering 311.

462-3 Matrix Methods of Structural Analysis. Flexibility method and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 340 and Engineering 222.

470-3 Engineering Analysis. Methods of solution for basic ordinary differential equations with applications to engineering systems. Basic methods of solution for partial differential equations with emphasis on applications of the Laplace, Poisson, and heat equations to engineering problems. Basic vector field theory; transformation theorems. Simulation techniques applied to engineering systems. Prerequisite: Mathematics 305 or equivalent.

480-1 Civil Engineering Seminar. Civil engineering as a profession. Basic concepts of professionalism. Engineers' inherent responsibilities to society, client or employer, and other members of the profession. The role of ethics in engineering. Prerequisite: senior standing.

483-3 Senior Design Project in Civil Engineering. A comprehensive design course emphasizing preliminary and overall design of civil engineering projects using a team approach. Students will define and design the various components and subsystems of the project, define subsystem interface requirements, integrate the subsystems into the final design and document the whole

design in the form of a final report and an oral presentation. Laboratory. Not for graduate credit. Prerequisite: 321, 413, 415, 442, 444, and senior standing in civil engineering.

484-3 Engineering Design. Provides the senior engineering student with a design experience involving two or more of the following disciplines: solid mechanics, fluid mechanics, dynamics/vibrations, and materials. The course is directed toward the development of attitudes and approaches to the design process rather than specific design techniques. Students working in small teams will select a problem, define and design the system components into a final design, and document the design effort. Not for graduate credit. Prerequisite: graduating senior standing.

492-1 to 4 Special Problems in Civil Engineering. Selected engineering topics or problems in (a) structural engineering, (b) hydraulic engineering, (c) environmental engineering, (d) applied mechanics and (e) geotechnical engineering. Four hours maximum course credit. Prerequisite: consent of instructor.

493-1 to 4 Special Problems in Engineering. Selected engineering topics and/or problems in (a) stress analysis, (b) fluid flow analysis, (c) structural engineering, (d) computational mechanics, (e) materials engineering, and (f) dynamics. Four hours maximum course credit. Not for graduate credit. Prerequisite: consent of instructor.

Clothing and Textiles

(SEE VOCATIONAL EDUCATION STUDIES)

Coaching (Minor)

(SEE PHYSICAL EDUCATION)

Commercial Graphics – Design (Program, Major, Courses)

The advertising business is a growing field, presenting ever increasing opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, finished lettering, fashion illustrations, airbrush and photo-retouching, and many others.

Students in this program develop multiple art skills so they may qualify for initial positions in many different areas of advertising art and design. Each individual has a base upon which to build a career according to personal special interests and talents.

Each graduating design student is required to pass, with 90% accuracy, a vocabulary proficiency test and to have compiled a professionally acceptable portfolio of work.

The student should expect to spend approximately \$1,500 to \$2,000 for supplies, equipment, and materials over a two year period.

An active advisory committee whose members represent large corporations and departments, large and small advertising agencies, and freelance designers and illustrators, serve the program. At the general meeting each year in April all graduating students will be interviewed with their portfolios to prepare them for their first job search efforts.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience. Students may continue work toward a bachelor's degree in advanced technical studies in the College of Technical Careers.

An individual must first be accepted academically to the university, present a portfolio of required pieces, and participate in a workshop drawing test. The 45 best qualified will be invited to enter the program the following fall.

Associate in Applied Science Degree, College of Technical Careers*Requirements for Major in Commercial Graphics-Design*

GEB 202.....	3
GED 101, 153	6
Technical Careers 102.....	2
Commercial Graphics 110, 120, 122, 124, 130, 132, 133, 134, 210, 215, 222, 224, 230	56
Commercial Graphics 109 or 150	2
Graphic Design Proficiency Examination requirement	0
Total	69

Courses

101-3 Fundamentals of Drawing for Commercial Graphics – Design. An introduction to the materials and techniques utilized in graphic design and illustration. The basic elements of art and design will be identified and incorporated in a series of exercises designed to acquaint students with the concepts, processes, and skills needed by professionals employed in the commercial graphics field.

109-2 Basic Photography for Commercial Graphics–Design. An introduction to the fundamentals of photography directed toward the needs of graphic design. Through a basic understanding of film exposure and development processes, its use as a graphic medium will be attained. By creative studio and laboratory assignments an insight into the possibilities and limitations of the photographic process will be gained. The cost of film, processing, and printing will be borne by the student. Lecture one hour, laboratory two hour.

110-6 (3, 3) Survey of Graphic Design. The student will be introduced to the events and processes through which the specialized field of graphic design has evolved to attain its present form. The relationships between the visual arts and communications technology and the significant advances in these areas will be examined. (a) History of graphic design through 19th century. (b) History of graphic design in the 20th century. Lecture three hours each.

120-4 Artistic Anatomy and Color Perception I. Students will demonstrate an ability to understand and use pigmental and light ray color theory and practical application. Students will also demonstrate a knowledge of the bones and muscles of the human anatomy by way of examination and further demonstrate their comprehension and talent by way of artistically and accurately drawing the figure from life. Student will also demonstrate an ability to design, organize, and structure through compositional arrangement. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 122 and 124.

122-4 Technical Drawing for Graphics. Students will demonstrate an ability to understand and utilize the proper point of perspective in illustration and to use the T-square, triangle, and drawing instruments in precisely executing geometric forms, mechanical, and industrial illustration. In addition, students will demonstrate an ability to render objects on scratchboard: the utilization of zipatone patterns and the proper use of the ruling pen to accurately execute ruled business forms. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 120 and 124.

124-4 Graphic Layout and Typography I. Student will demonstrate an ability to use the basic principles of layout, how to do thumbnails, roughs, and clear accurate comprehensives. They will also demonstrate an understanding of basic lettering styles and techniques with chisel point pencil. They will demonstrate an ability to understand the history and practical uses of typography in advertising. Lecture two hours. Laboratory three hours. Prerequisite: concurrent enrollment in 120 and 122.

126-2 Fundamentals of Drawing and Composition. For non-majors. The student will demonstrate awareness of perspective, light and shade, color theory and application, and composition through basic drawing techniques. Lecture one hour. Laboratory two hours.

128-2 Fundamentals of Graphic Processes. The student will be made aware of the various principles and styles of layouts, letter forms and typography and prepare mechanicals to demonstrate a knowledge of the various printing methods. The student must supply all materials used. Lecture one hour. Laboratory two hours. For non-majors.

130-4 Artistic Anatomy and Color Perception II. The student will continue to demonstrate knowledge and artistic ability of the human anatomy in the development of advertising, illustration, fashion illustration, and by way of modification the development of the cartoon figure. Lecture two hours. Laboratory three hours. Prerequisite: 120, 122, and concurrent enrollment in 132 and 134.

132-4 Airbrush and Photo Retouching. The student will demonstrate development of skills in the operation and techniques of airbrush rendering used for mechanical and illustrative purposes,

and in addition, will retouch black and white photographs suitable for reproduction. Lecture two hours. Laboratory three hours. Prerequisite: 120 and 122 and concurrent enrollment in 130 and 134.

133-1 Copyfitting. The student will demonstrate an ability through discussion and examination to properly solve copy fitting problems, specify how many lines a given manuscript or ad will set, how deep, how many pages in any given format, and to calculate the number of characters per pica and per line. Lecture one hour. Prerequisite: concurrent enrollment in 134.

134-4 Graphic Layout and Typography II. The students will demonstrate their ability through discussion and examination to identify at least 14 different type faces on sight. In addition, they will demonstrate an ability to prepare clean, accurate, professional, quality paste-up, keylines with overlays, and separations. They will demonstrate an ability to work with offset lithography, letter press, gravure, and silk screen printing processes. Lecture two hours. Laboratory three hours. Prerequisite: 122 and 124, and concurrent enrollment in 130, 132, and 133.

150-2 Computer Applications for Commercial Graphics Design. Introduction to microcomputer-based techniques. Includes a survey of history and current computer generated graphics. The student will become familiar with basic computer operation and keyboard, and develop business graphics visuals in full color to be produced on 35mm film. Programming not required. Incidental expenses not to exceed \$15. Prerequisite: 120, 122, 124, or consent of department.

200-1 to 2 (1, 1) Artfair Exhibition. Students will receive practical experience in the coordination and development of an art exhibition. They will participate in the development of announcements, mailers, cataloging, scheduling news releases, receiving of entries, security, and returning procedures. They will develop a systems flow chart for the effective and smooth operation of an exhibition including hands-on operation of exhibit construction and location. Laboratory three hours.

210-6 Advertising Graphics. Students will demonstrate their ability in the preparation of professional assignments in lettering, logo, and letterhead design and the development of line art and cartoons for advertising illustration. In addition, students will have their work selected for production on various client-oriented projects. Lecture three hours. Laboratory six hours. Prerequisite: 130, 132, and 134 and concurrent enrollment in 224.

215-6 Dimensional Design. Students will demonstrate their ability to research and analyze information to create a precise original concept and to visually render point-of-purchase displays, exhibits, signs, and package designs. Lecture three hours. Laboratory six hours. Prerequisite: 210, 224, and concurrent enrollment in 222.

222-6 Graphic Design and Advertising Illustration. Students will demonstrate their ability to prepare professionally acceptable assignments in poster panels and billboard designs, diecut tent cards, folder designs and multi-unit advertising, and advertising and cover illustration and client oriented projects for promotions and product. Lecture three hours. Laboratory six hours. Prerequisite: 210, 224, and concurrent enrollment in 215.

224-6 Publication Graphics. Students will demonstrate their ability to create new and unusual concepts in advertising layout and design, folder design, color keys, marking up copy, and doing complete production art. Contemporary techniques in design and production will be emphasized. Students also have the opportunity to have work selected for production on various client-oriented projects. Lecture three hours. Laboratory six hours. Prerequisite: 130, 132, 134, and concurrent enrollment in 210.

230-1 Job Orientation Seminar. Students will demonstrate a knowledge through discussion and examination of the operations of large and small agencies and studios including the various responsibilities of the people employed in them by class discussion and examination. Prospecting for employment, working conditions, prospects for advancement, how much an artist should charge for a piece of art, and the legal responsibilities of the artist-designer to the client-agency will be discussed. Students will conclude this course with the presentation of a portfolio demonstrating their ability to do professional quality work (at least 10 plates) and will have acquired the experience of being interviewed for an artist position. Lecture one hour.

240-3 to 12 Special Study. A student with a special interest in a particular advertising art or graphic design area will be selected projects and research to develop additional professional skill. Requires approval of the program supervisor. Lecture three hours. Laboratory 24 hours maximum.

310-6 (3, 3) Advanced Illustration. Provides the student with the opportunity for advanced studies in methods and techniques used by recognized illustrators in the development of fiction and non-fiction story visualizations. (a) Visual development. To depict the climax or visually stimulating moment of the story through the use of thumbnails, roughs, value studies and to secure models, costumes, props, etc., as may be needed to photograph for rendering studies. (b) Renderings to be in any medium approved by the faculty sponsor. Number of projects to be determined by complexity of each. Student must have access to a 35mm SLR camera and tripod. Prerequisite: 120, 130, and successful completion of graphic design proficiency requirement, or permission of coordinator.

312-6 (3, 3) Advanced Airbrush/Technical Illustration. Provides the opportunity for advanced studies in methods and techniques used in airbrush and technical illustration. (a) Perspective or

isometric projections rendered in ink, overlay films, or airbrush. (b) Airbrush rendering of commercial advertising or products. Students will be required to complete a specific number of projects that lead through the production to a finished commercial rendering, from concept to touch-up, based on the complexity of each as determined by the sponsoring faculty member. Must have own airbrush and portable compressor. Prerequisite: 122, 132, and successful completion of graphic design proficiency requirements, or permission of coordinator.

315-3 Advanced Dimensional Design for Commercial Graphics—Design. Provides the opportunity to advance skills, development, and knowledge in the diverse field of dimensional graphics. The student will utilize dimensional design in the conceptualization and creation of advanced dimensional design (package and exhibit design, point of purchase displays, etc.) and/or paper engineering graphic design ("pop-up" advertisements, dimensional inserts, etc.). The student will be expected to successfully complete several challenging projects chosen from a field of eight. Prerequisite: 215, 224, and successful completion of the graphic design proficiency examination, or permission of coordinator.

350-3 Advanced Computer Applications. Provides an opportunity for the advanced study of artistic and technical solutions for commercial graphic problems using the computer as a tool. Demystifies computer graphics for artists and designers and helps them use computer graphics in their work. Hands-on computer painting is explored as well as a library of type fonts. An understanding of commercial graphic print tools and color separation are studied and used. Animation and special effects may be created and saved on a disk. Lecture one hour/laboratory three hours. Expenses approximately \$25. No programming required. Prerequisite: 150 and associate degree in commercial graphics and successful completion of graphic design proficiency requirements, or consent of coordinator.

Communication Disorders and Sciences (Department, Major, Courses)

The program in communication disorders and sciences has as its objective the training of qualified personnel to aid people who are speech, language, or hearing impaired. The undergraduate curriculum is broad in scope and gives the student the necessary preprofessional background for the clinical-research program offered at the master's level. Both state and national certification require the master's degree. Students who complete the graduate program at the master's level are qualified for positions in public or private clinics, schools, hospitals, or agencies. Students who complete the graduate program at the doctoral level also qualify for positions with college and universities, research institutes, or governmental agencies.

The Department of Communication Disorders and Sciences is dedicated to preparing students for leadership roles in the profession. Students are expected to develop programs that will enhance their individual strengths in light of their vocational goals. The undergraduate program permits students to develop significant concentration areas outside of the department while laying the foundation for graduate education.

Observation and beginning clinical experience are obtained at the undergraduate level through work at the University's clinical center and area clinics, schools, and agencies. The undergraduate program is designed to provide the student with sufficient information and experience to determine the advisability of pursuing a graduate degree. Those students choosing not to continue in the profession will find themselves well prepared to enter the job market with a broadly based education or to pursue graduate work in allied professions.

All students are encouraged to plan programs of study to meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association or for the Standard Special Certificate in Speech and Language Impaired of the State of Illinois or both. Planning at the bachelor's level will facilitate completion of certification requirements of American Speech-Language-Hearing Association and State of Illinois in conjunction with the master's degree program.

Bachelor of Science Degree, College of Communications and Fine Arts

COMMUNICATION DISORDERS AND SCIENCES – PREPROFESSIONAL PROGRAM

<i>General Education Requirements</i>	46
Including GEA 115; GEB 108 and 202; GED 101, 102, 107, and 152 or 153.	
<i>Requirements for a Major in Communication Disorders and Sciences</i>	52
Psychology 301, 305	6
Rehabilitation 406	3
Communication Disorders and Sciences 105, 200, 203, 214, 285, 302, 303, 307, 311, 318, 319, 392, 393, 419 and 420	43
<i>Electives by Advisement</i>	22
If the education option is not selected, electives must include 12 additional semester hours of psychology selected from the following courses: Psychology 302, 305, 307, 309, 310, and 411. The remaining 10 hours selected by advisement.	
<i>Total</i>	120

Bachelor of Science Degree, College of Communications and Fine Arts or Bachelor of Science Degree, College of Education

A student in the College of Communications and Fine Arts or the College of Education who plans to be a public school speech and language clinician in Illinois, thereby needing to prepare to meet the requirements for the Standard Special Certificate – Certificate in Speech and Language Impaired, should follow the program of course requirements listed above. In addition, the requirements for the Teacher Education Program must be completed.

The student teaching requirement and related seminar, may not be undertaken at the undergraduate level. At the graduate level, there are two additional requirements: 1) 9 semester hours (3 courses) selected from 505, 507, 510, 512, and 420; and 2) 70 clock hours from at least four credit hours from the following practicum courses: 494 and 496. See also Teacher Education Program, Chapter 3.

Courses

- 100-0 to 1 Speech Clinic: Therapy.** For students with speech and hearing deviations who need individual help. Prerequisite: consent of instructor.
- 104-3 Training the Speaking Voice.** For those students who desire to improve their voice and articulation.
- 105-3 Introduction to Communication Disorders.** A general survey course devoted to a discussion of the various problems considered to be speech and hearing disorders with special emphasis on basic etiological classification schemes and their incidence in the current population. Opportunities for directed observation.
- 200-3 Phonetics.** Instruction in the use of phonetic symbols to record the speech sounds of midland American English, with emphasis on ear training, and a description of place and manner of production of these sounds.
- 203-3 Introduction to Speech-Language and Hearing Science.** An introduction to the science of general speech including the history of research in the field and significant experimental trends. Open to all students.
- 214-3 Anatomy and Physiology of the Speech and Hearing Mechanism.** Structure and function of the speech and hearing mechanism.
- 285-3 Computer Technology in Communication and Fine Arts: Basic Literacy.** An introduction to the basic terminology, concepts and techniques being used in the various areas of the College of Communications and Fine Arts. A foundation course to prepare students for the impact of computer technology in the professional lives of those who work in the occupational settings represented within the college.
- 302-3 Phonological Development and Disorders.** A general introduction to the phonological development in children on a normative basis. In addition to introducing the student to the classical studies in articulatory development, this course provides a general exposure to the implications of classical phonetic theory, coarticulatory theory and distinctive features theory as a framework for therapy and research.

303-3 Language Development and Disorders. Presentation of the progressive stages of language development in the areas of syntax and semantics. The student is acquainted with normal developmental processes and introduced to identification and remediation of therapeutics with children from ages three to twelve. Theoretical considerations and terminology related to traditional structural and transformation grammars are introduced as tools for interpreting the acquisition processes.

307-3 Introduction to Organics. An introduction to the organic bases of communication disorders. An emphasis will be placed on the foundations of development and teratological events and influences which result in specific communication disorders, and overview of those disorders, and their implications for the individual. Observations as directed. Prerequisite: 214 or consent of instructor.

311-3 Research Methods in Communication Disorders and Sciences. Introductory survey of research methods and techniques used in speech language and hearing.

318-3 Parameters of Voice. Physio-acoustic parameters of voice quality variables evidenced in verbal communication. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

319-3 Stuttering. Deals with diagnostic and therapeutic techniques for the understanding and treatment of stuttering.

392-3 Diagnostic Procedures in Communication Disorders. A general introductory course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: 302, 202, and one additional 300-level course or consent of chairperson.

393-1 to 2 (1, 1) Basic Clinical Practice: Principles and Procedures. Supervised clinical practicum in basic theory procedures, diagnostic techniques, and preparation of reports. Prerequisite: 302, 303, and two additional 300-level courses or equivalents or consent of chairperson. For CDS majors only.

408-3 Communicative Disorders: Craniofacial Anomalies. An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Associated problems of personal and social adjustments are also examined. Prerequisite: 105, 214, 318, or consent of instructor.

419-3 Communication Problems of the Hearing Impaired. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303, and 316, or equivalents and consent of instructor.

420-3 Introduction to Audiological Disorders and Evaluation. Bases of professional field of audiology (orientation, anatomy, and physiology of the auditory system), major disease processes influencing hearing and their manifestations, measurement of hearing loss.

428-3 Communication Disorders and the Classroom Teacher. Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.

431-1 to 6 (1 to 3, 1 to 3) Biofeedback Communications. An investigation into the experimental approaches for the study of the phenomena of speech. Evoked potential and signal averaging techniques, psychophysiological methodology. Laboratory experience with various biofeedback instrumentation, EMG, EEG, temperature ECG, etc. Open to nonmajors.

438-2 Problems of Communication and the Process of Aging. Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. Prerequisite: senior or graduate standing.

450-3 Neuroanatomical Basis of Human Communication. Examination of the central nervous system (brain and spinal cord) as it relates to normal and disordered human communication. Presentation of basic neuroanatomy, common neuropathologies relevant to communication disorders, and strategies in neurogenic problem solving. Prerequisite: 214, 307, or consent of instructor.

485-1 to 3 Special Topics in Communication Disorders and Sciences. Topical presentations of current information on special interests of the faculty not otherwise covered in the curriculum. Designed to promote better understanding of recent developments related to disorders of verbal communication. Open to advanced undergraduate and graduate students with consent of instructor.

489-1 Seminar in Developmental Psycho-Neurolinguistics. Explores current issues in the area of developmental psycholinguistics and neurolinguistics. Included will be normal language use and development, as well as disordered language use and development; foreign/second as well as first language will be included. Development will be interpreted to mean life span. Prerequisite: consent of instructor.

491-1 to 3 Individual Study. Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chairperson. Prerequisite: consent of chairperson.

494-1 to 12 (1 to 4 per section) Advanced Clinical Practice: Speech/Language. Advanced

clinical practicum in (a) articulation and phonology, (b) language disorders, (c) voice disorders, and (d) fluency disorders. Emphasis will be placed on specialized therapy procedures, diagnostic techniques, and the preparation of reports. Prerequisite: for (a), 302, 392 and 393 or equivalent and consent of chairperson; for (b), 303, 392 and 393 or equivalent and consent of the chairperson; for (c), 318, 392 and 393 or concurrent enrollment or equivalent and consent of the chairperson; for (d), 319, 392, 393 or equivalent and consent of the chairperson. For CDS majors only.

496-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Disorders. Advanced clinical practice in hearing disorders. Emphasis will be placed on rehabilitative procedures in audiology. Prerequisite: 393 or 419 or equivalents and consent of chairperson. For CDS majors only.

497-1 to 2 (1, 1) Advanced Clinical Practice: Hearing Diagnostics. Advanced clinical practice in hearing diagnostics. Emphasis will be placed on diagnostic techniques used in the preparation of basic and advanced audiological reports. Prerequisite: 393 and 420 or equivalents and consent of chairperson. For CDS majors only.

Communications and Fine Arts (College, Courses)

Courses

397-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Communications and Fine Arts. Prerequisite: consent of instructor.

Community Development (Major [Graduate only], Minor,

Courses)

In recognition of major national legislation in community development and the growing need for informed leaders and trained practitioners at the community level in many fields, this minor has been developed.

Requirements: 15 semester hours, including 401 and at least 6 additional hours selected from community development courses and 6 more hours from community development courses or from courses closely related to the community development field offered in other departments. A list of approved courses is available from the community development office. If students receive credit in their major for any of these courses, it may not also be counted toward their community development minor.

Courses

200-3 The Nature of Community. Human communities have existed since pre-history, but the nature of what a community is, should, or could be remains a subject of wide debate. The purpose of this course is to clarify some of the issues of this debate by examining some of the ways that communities have changed since prehistoric times as well as the different philosophies and theories of community, both past and present, and also by identifying those aspects and elements of community life that appear common to all human communities.

201-3 Communes and Communities: Experiments Past and Present. Throughout recorded history various individuals have envisioned, and various groups have deliberately sought to establish, communities that differed greatly from the conventional communities of the time. Some, like the medieval monastic orders or the "Bruderhoffs" of today, have been remarkably durable; but many have failed. In this course, the history and philosophy of experimental and intentional communities from monasteries to communes will be reviewed with the object of better understanding the social conditions that give birth to such communities and those conditions that appear to either enable or inhibit their survival.

202-3 Communities of the Future. The focus of this course will be on problems of and solutions to the creation and maintenance of human settlements and the interdependence of social, cultural, and economic elements. Problems of crime, disease, health, moral issues, government control, population, migration, and others will be explored against a background of innovative, technical and utopian social ideas about communities of the future.

295-1 to 6 Field Service Practicum in Southern Illinois. (Same as Social Work 295.) This

course is designed for freshmen and sophomores who are volunteering service to community, social service, or health service agencies in southern Illinois. Credit based upon time spent in direct service. Approval of agency required for registration. Mandatory Pass/Fail.

302-3 Community Self-Study. An introduction to problem analysis and needs assessment. The self-study approach, pioneered by the Southern Illinois University at Carbondale community development program, enables citizens in small towns and social and economic groups in urban areas to identify needed changes harmonious with their values. Examines the community self-study method and applications to current problems.

401-3 Introduction to Community Development. This course surveys the field of community development, an applied social science that encourages self-reliance by generating change and growth strategies for groups and communities. The course focuses on the history and philosophy of community development, citizen rights issues, change techniques, value dilemmas confronting change agents, and examination of some current community development programs.

402-3 Third World Community Development. Analysis of the history, goals, methods, and techniques of socioeconomic development in the Third World countries. Cultural, economic, social structural, political, and administrative factors in development and in the process of community organization are discussed. Case studies from Africa, Asia, and Latin America.

403-3 Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues.

404-3 Role Theory and Analysis in Community Development. The focus of this course is on role theory and methods of analysis. The student will gain considerable exposure to the techniques of role analysis as an evaluation tool in community development training and program development.

405-3 Social Planning. Introduction to the methods, practices, functions, and ethics of social planning in the United States, including a critical perspective. Criminal justice, health, manpower, welfare, and other sectors of social planning will be discussed to illustrate the principles of social planning.

489-3 Field Service Seminar. (Same as Social Work 489.) This seminar is to be taken concurrently with 495 or Social Work 495. May not be taken for credit if credit has been earned in 289 or Social Work 289. Prerequisite: consent of instructor.

491-1 to 6 Independent Study in Community Development. Supervised individual study and projects in keeping with the needs of each student. Prerequisite: consent of instructor.

495-1 to 6 Advanced Field Service Practicum in Southern Illinois. (Same as Social Work 495.) This course is directed at upperclassmen and graduate students volunteering service to community, social science, or health agencies in southern Illinois. Credit based on time spent in direct service. Approval of agency required for registration. May not be taken for credit if credit has been earned in 295 or Social Work 295. Mandatory Pass/Fail for undergraduates.

497-1 to 12 (1 to 3 per topic) Seminar in Community Development. The identification and analysis of special problems in community development. (a) Project funding, evaluating, and reporting; (b) Central and peripheral systems in community development; (c) Community development cooperatives and credit unions; (d) Research problems and methods; (e) Special problems. Credit limited to not more than three per topic and not more than 12 total.

Comparative Literature (Minor)

A comparative literature minor is available within the College of Liberal Arts. The program is directed by the comparative literature adviser in either the Department of English or the Department of Foreign Languages and Literatures. The minor consists of 18 hours of course work at or above the 300-level in literature other than those in which the student is majoring.

Computer Information Processing (Program, Major, Minor, Courses)

The growth of information processing in both the expansion of installations and the complexity of hardware and software has increased the need for competent information processing personnel. The curriculum in computer information processing at the College of Technical Careers prepares students for employment as business computer programmers and systems analysts. Skills which the graduate

obtains include competency in programming languages such as COBOL, RPG, and Assembler and associated areas such as accounting and systems design.

Students enrolled in the program have access to a modern large scale IBM computer with batch and interactive facilities, and an IBM PC lab. The hardware and software configurations are representative of large computer installations in industry. The data center is available for student use approximately 100 hours each week.

The associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community colleges or other acceptable extra-institutional educational experiences. Students beginning the program in the spring semester may require five semesters to complete the degree. Students should plan to spend small amounts for special laboratory materials.

Students completing this program may seek employment as entry level business applications programmers and systems analysts, or may continue their studies by enrolling in a bachelor's degree program, such as the advanced technical studies program in the College of Technical Careers.

An advisory committee of professional people and educators meet annually on campus to review the program to assure its continuing responsiveness to the current needs of industry.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Computer Information Processing

GED 101, 102, 152 or 153 each with a minimum grade of C or better	9
Technical Careers 120, 220,	6
Computer Information Processing 101, 102, 103, 111, 121, 131, 212, 213, 222, 232, 233 , 281 each with a minimum grade of C.....	40
Approved social and technical electives (list available)	9
Total	64

Minor

A minor in computer information processing consists of one course from Group A (2 to 3 credit hours), one course from Group B (2 to 3 credit hours) and the remaining courses from Group C to complete a minimum of fifteen credit hours. No more than six credit hours may be transfer courses.

- Group A: Introduction to Information Processing
101, 109 or any approved nonprogramming introductory course
- Group B: Introduction to Programming
102, 111, 121, 222, 323 or any approved full semester programming course
- Group C: Electives
Any Computer Information Processing course except 101, 103, 109, 280, 281, the course chosen from Group B (of the two courses 131 and 229, only one may be used) or any approved computer related course.

All prerequisites must be satisfied for computer information processing courses taken for the minor.

Courses

101-3 Introduction to Information Processing. The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications, and equipment used in information processing. Topics covered will range from simple computer processing techniques to

advanced contemporary applications. Credit cannot be given for both 101 and 109. Lecture three hours. Restricted to majors and minors.

102-3 Introduction to Programming. The successful student should be able to flowchart and code logical solutions to business data, processing problems using general approaches to totaling, table processing, and file updating. Lecture three hours. 101 or concurrent enrollment or equivalent.

103-3 Information Processing Mathematics. The successful student should be able to use various types of logic diagrams, such as flow charts and truth tables to solve problems; to work problems using basic algebra, business mathematics, number bases, and related concepts. Lecture three hours. Prerequisite: high school algebra.

109-3 Information Processing Concepts. The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications, and equipment used in information processing. Topics covered will range from simple computer processing techniques to advanced contemporary applications. Credit cannot be given for both 101 and 109. Lecture three hours. Intended for nonmajors.

111-3 Cobol Programming I. The successful student should be able to flowchart, code, and run a variety of simple problems using disk input, disk and printer output, control breaks, and one dimensional tables. Lecture three hours. Prerequisite: 102.

121-3 RPG Programming. The successful student should be able to code and run a variety of business problems in the Report Program Generator language with disk and printer files, multiple record formats, multiple file input, tables, arrays, matching records, and selected special features. Lecture three hours. Prerequisite: 102.

131-3 Information Processing Applications. The successful student will demonstrate by examination a general knowledge of processing procedures and terminology for basic business applications such as billing, accounts payable and receivable, inventory control, and payroll. In addition, the successful student will implement selected business procedures on microcomputers using appropriate applications software packages, such as word processing, data base, and spread sheets. Lecture three hours.

212-3 COBOL Programming II. The successful student should be able to flowchart, code, and run a variety of complex problems using disk and printer files and advanced COBOL language features. Lecture three hours. Prerequisite: 111 or equivalent with a grade of C or better.

213-6 Information Processing Project. The successful student will design and implement a minisystem for a problem approximating the type encountered in industry by entry-level programmers. The student draws upon knowledge gained in previous courses and develops an understanding of how the various subject matter fits together. Lecture three hours. Independent laboratory four hours. Prerequisite: 212 with a grade of C or better, 232, 233 or consent of instructor.

222-4 Assembler Programming. The successful student should be able to code and run a variety of business oriented problems using disk and printer files, character, decimal, and binary instruction sets, table/array processing, and subroutines. Lecture four hours. Prerequisite: two prior programming classes or consent of instructor.

229-3 Computing for Business Administration. The successful student will acquire an understanding of information systems concepts and of the use of computers to process business data through solving a variety of business related problems. Emphasis is on the computer as a management tool. Lecture three hours.

232-3 Systems Design and Development. The successful student will demonstrate in class discussion, on examinations and by preparing a case study the ability to design an effective business information processing system, including system flow chart, specifications, feasibility, implementation procedure, and essential documentation. Lecture three hours. Prerequisite: 111 and 131 or consent of instructor.

233-4 Job Control Language and Utilities. The successful student will demonstrate by examination an understanding of operating systems, and should be able to code and run problems involving JCL statements and utility programs to create, edit, sort, copy, and execute files. Lecture four hours. Prerequisite: 111 or consent of instructor.

280-1 to 8 Information Processing Internship. The successful student will study, observe and participate in a practical experience closely related to and supplementing studies in information processing. Hours and credit arranged individually. May be repeated for credit up to eight hours total. Prerequisite: consent of department. Mandatory Pass/Fail.

281-2 Career Development. The successful student should be able to demonstrate an understanding of the skills required for finding and changing employment, for functioning successfully in a job environment, and for assessing and improving interpersonal skills. Lecture two hours. Prerequisite: CIP major or consent of department.

291-1 Introduction to VM/CMS. A short course introduction to the terminology and procedures necessary to create and modify files in CMS. Execs, macros and IBM manual notation are included. Lecture one hour. Mandatory Pass/Fail.

292-1 Introduction to Microcomputers. A short course introduction to concepts and procedures related to using microcomputer hardware and software. Lecture one hour. Mandatory Pass/Fail.

- 93-1 Introduction to Spreadsheets.** A short course introduction to the main features of a spreadsheet to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.
- 94-1 Introduction to Databases.** A short course introduction to the main features of a database to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.
- 23-3 Pascal Programming.** The successful student should be able to code and run a variety of business problems in Pascal with disk and printer files. Programs range from simple to complex problems employing a variety of language features and business related programming techniques. Lecture three hours. Prerequisite: two programming courses or consent of instructor.
- 34-3 Database Processing.** The successful student will demonstrate by examination an understanding of database terminology, structure, languages, implementation, and administration. Lecture three hours. Prerequisite: 212 or consent of instructor.
- 35-3 Data Communications.** The successful student will demonstrate by examination an understanding of concepts and vocabulary related to designing, implementing, and maintaining communication networks. Lecture three hours. Prerequisite: 101 and 111 or equivalent or consent of instructor.

Computer Science (Department, Major, Courses)

The Department of Computer Science offers two degree programs to undergraduate students. The Bachelor of Science and the Bachelor of Arts degree programs are both offered through the College of Liberal Arts.

The department offers courses covering all major areas of computer science. These courses constitute the basis for an undergraduate major which prepares students for a variety of professional and technical careers in business, industry, and government or for graduate work leading to advanced degrees. In addition, the department offers an undergraduate minor and service courses for students from other fields who will use computer science as a tool in their own areas. Students interested in computer science will be advised with respect to computer science courses by the department so they may profitably pursue their academic and professional interests.

The curriculum specified for the Bachelor of Science degree is more flexible, broadly based, and provides preparation for a wide range of careers as well as for graduate training in computer science. The Bachelor of Arts degree program is oriented toward preparing students for careers across a wide spectrum of fields in which computers play a significant role. The program achieves this by requiring each student to develop a secondary concentration in a field which matches the individual's career goals.

The department enforces the following retention policy: A computer science major will not be permitted to enter any of the courses, 220, 302, 306, 315, 330, or 411, unless that student has achieved a grade point average of at least 2.00 for all required precedent computer science courses. Any exceptions to this policy will require the written approval of the departmental chairperson.

The department also enforces the following restriction on students repeating its courses: a student cannot repeat a course or its equivalent, in which a grade of B or better was earned, without the consent of the department.

Bachelor of Science Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 4
<i>Requirements for Major in Computer Science</i>	62-71
Computer Science 202, 215, 220, 302, 306, 315, 330, 411, each	
with a grade of C or better	24
Computer Science 361 or 464a	3
Computer Science electives	15
9 of these hours must be chosen from an approved list ¹ of 400-level courses.	

Mathematics 150, 250, 221, 380	14
Science or Engineering..... (0-9) + 3-12	
A two-semester sequence of laboratory science or engineering courses chosen from an approved list. ¹ Two additional science or engineering courses.	
English 290 or equivalent	3
Electives.....	0-
Total.....	120-12

¹See the departmental adviser for the current approved list.

Bachelor of Arts Degree, College of Liberal Arts

General Education Requirements.....	40
College of Liberal Arts Academic Requirements (See Chapter 3.)..... (4) +	
Requirements for Major in Computer Science	6
Computer Science 202, 215, 220, 302, 306, 330, 411, each with a grade of C or better	
Computer Science electives	21
The electives must include at least 9 hours of 400-level computer science courses. The remaining hours may be 300 or 400-level computer science courses.	
Mathematics 140 and either 282 or 283.....	15
English 290 or equivalent	7
English 491	3
Secondary Concentration	3
At least 15 hours including nine at the 300 or 400-level from a single Bachelor Degree granting department, other than Computer Science, within an approved academic unit. ¹ The courses must be chosen from among those that can be counted toward a major within the chosen department.	
Electives	15
Total	120

¹See the departmental adviser for the list of approved academic units.

Minor

A minor consists of Computer Science 202, 215, 220, 302, 306 and 330.

Courses

102-3 Computers in Society. An introduction to computers, their uses, present and future role of computer technology in society, and related social issues. Includes elementary programming using on-line terminals. Enrollment restricted to non-majors.

129-3 Programming Personal Computers. Overview of personal computer hardware and software. Programming in the BASIC language. Discussion of some applications software. Enrollment restricted to non-majors.

200-3 Introduction to FORTRAN Programming. An introduction to computers and programming. Primary emphasis will be given to the design and implementation of algorithms using FORTRAN. Enrollment is restricted to non-majors.

202-3 Introduction to Computer Programming. An introduction to computers and programming including a discussion of algorithms, data representation, structure and debugging of programs, computers and languages. Primary emphasis will be given to the design of algorithms for the solution of problems and the programming concepts required to implement algorithms in a particular programming language.

212-3 Introduction to Business Computing. An introduction to concepts and features of computing systems with reference to business information processing. Includes a basic treatment of programming, database systems, electronic spreadsheets, and word processors as they relate to information processing in the business environment. Enrollment restricted to non-majors.

215-3 Discrete Structures I. (Same as Mathematics 215.) Number systems and computer arithmetic.

metic. Sets, relations, and functions. Boolean algebra with applications to computer logic design. Elementary matrix operations. Combinations, permutations, and counting techniques. Prerequisite: Mathematics 108 or equivalent.

220-3 Advanced Programming and Data Structures. A continuation of 202 which includes an emphasis on programming style, advanced features of the language, and data structures. Topics include string handling, recursion, arrays, stacks, queues, linked lists, trees, internal sorting, and searching. Prerequisite: 202 and 215 each with a grade of C or better.

302-3 Assembly Language Programming. Basic computer organization. An extensive treatment of a specific assembly language, including macros and conditional assembly. The assembly process. Comparison of various computer architectures. Prerequisite: 202 and 215 each with a grade of C or better.

306-3 Fundamentals of Computing Systems. An introduction to the organization of a computing system in terms of hardware, firmware, and software. Computer architecture and hardware subsystems. Design of an assembler, a linking loader, and other system software. Introduction to operating systems. Prerequisite: 220 and 302 each with a grade of C or better.

311A-1 Ada Programming Language. An introduction to the high level programming languages Ada. Included will be substantial practice in the language aimed at features of Ada that distinguish it from other languages. These features include, but are not limited to, the Ada Package for data abstraction and the Ada tasking facility for concurrent programming. Prerequisite: 220 or consent of instructor.

311C-1 C Programming Language. An introduction to the high level programming language C. Included will be substantial practice in the language aimed at features of C that distinguish it from other languages. These features include, but are not limited to, bitwise operations and the use of C as a systems programming language. Prerequisite: 220 or consent of instructor.

311F-1 FORTRAN Programming Language. An introduction to the high level programming language FORTRAN. Included will be substantial practice in the language aimed at features of FORTRAN that distinguish it from other languages. These features include, but are not limited to, separate compilation of its subprograms and constructs aiding numeric programming techniques. Prerequisite: 202 or consent of instructor.

311L-1 LISP Programming Language. An introduction to the high level programming language LISP. Included will be substantial practice in the language aimed at features of LISP that distinguish it from other languages. These features include, but are not limited to, the concept of functional programming, as well as the design and implementation of programming systems aimed at the processing of list structures. Prerequisite: 220 or consent of instructor.

311M-1 Modula-2 Programming Language. An introduction to the high level programming language Modula-2. Included will be substantial practice in the language aimed at features of Modula-2 that distinguish it from other languages. These features include, but are not limited to, the Modula-2 module mechanism for data abstraction, the Modula-2 low level programming facilities and the Modula-2 coroutine system. Prerequisite: 220 or consent of instructor.

311P-1 PROLOG Programming Language. An introduction to the high level programming language PROLOG. Included will be substantial practice in the language aimed at features of PROLOG that distinguish it from other languages. These features include, but are not limited to, the concepts of logic programming and the use of the backtracking inference engine. Prerequisite: 220 or consent of instructor.

311X-1 High-Level Programming Language. An introduction to a high level programming language not covered elsewhere in the curriculum. Included will be substantial practice in the language aimed at features of the language that distinguish it from other high-level programming languages. Languages that might be covered include Forth, Smalltalk, PL/1, Algol, and Occam. Prerequisite: 220 or consent of instructor.

312-3 COBOL and Business Data Processing. COBOL and its use in business data processing. Prerequisite: 202.

315-3 Discrete Structures II. A continuation of 215 topics. Includes equivalence relations and partial order relations, an introduction to first-order logic and mathematical induction. Review of combinational circuits, synthesis and analysis of sequential circuits, flip-flops, and finite-state machines. Introduction to graphs and trees, including directed graphs, circuits, tree traversal, and shortest path algorithm. Prerequisite: 220 and 302 each with a grade of C or better.

318-3 Assembly Language Programming II. Topics in assembly language programming including macros, conditional assembly, I/O programming through OS, data set utility programs and JCL. Prerequisite: 302 with a grade of C or better.

330-3 File Organization. An introduction to secondary storage devices and files. Topics include sequential files, indexed files, hashed files, inverted files, security, privacy, backup, and recovery. Prerequisite: 220 and 302 each with a grade of C or better.

361-3 Numerical Calculus. (Same as Mathematics 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: Mathematics 221 and 250 and a working knowledge of FORTRAN.

401-3 Computer Architecture. Review of logical circuit design. Hardware description lan-

guages. Algorithms for high speed addition, multiplication, and division. Pipelined arithmetic. Implementation and control issues using PLAs and microprogramming control. Cache and main memory design. Input/Output. Introduction to interconnection networks and multiprocessor organization. Prerequisite: 306 and 315 each with a grade of C or better.

411-3 Programming Languages. Study of the significant features of existing programming languages with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax and semantics, representation and evaluation of simple statements, grouping of statements, scopes and storage allocation, procedures. Prerequisite: 220 and 302 each with a grade of C or better; a working knowledge of at least two of the high-level languages covered by the 311 courses is recommended.

414-3 Operating Systems. An introduction to the different components of operating systems, including I/O programming, memory management, virtual memory, process management, concurrency, device management, file management. Prerequisite: 306 and 330 each with a grade of C or better and a working knowledge of the language C.

416-3 Compiler Construction. Introduction to compiler construction. Design of a simple complete compiler, including lexical analysis, syntactical analysis, type checking, and code generation. Prerequisite: 411 with a grade of C or better.

430-3 Database Systems. A comprehensive treatment of database systems, including network, hierarchical, and relational systems. Prerequisite: 330 with a grade of C or better.

435-3 Software Design and Development. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, system specification, human interfaces, modular design, improved programming techniques, and program verification and validation. Prerequisite: 306 and 330 each with a grade of C or better.

436-3 Artificial Intelligence I. Search and heuristics, problem reduction. Predicate calculus, automated theorem proving. Knowledge representation. Application of artificial intelligence. Parallel processing in artificial intelligence. Prerequisite: 315 with a grade of C or better; at least one of 311L or 311P or concurrent enrollment.

440-3 Introduction to Computer Networks. Design and analysis of computer communication networks. Topics to be covered include queuing systems, data transmission, data link protocols, topological design, routing, flow control, security and privacy, and network performance evaluation. Prerequisite: 306 and 315 each with a grade of C or better and Mathematics 380.

447-3 Introduction to Graph Theory. (Same as Mathematics 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cutpoints, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 315 and Mathematics 221 or Mathematics 319.

449-3 Introduction to Combinatorics. (Same as Mathematics 449.) An introduction to combinatorial mathematics with computing applications. Topics include selection and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 315 or Mathematics 319, or consent of department.

451-3 Introduction to Automata and Theory of Computing. The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, Turing machines, and recursive functions. The relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 306 and 315 each with a grade of C or better.

455-3 Design and Analysis of Computer Algorithms. Introduction to design, analysis and complexity of algorithms. Searching/sorting algorithms, polynomial and matrix algorithms, graph theoretic algorithms. Introduction to complexity theory. Prerequisite: 315 and 330 each with a grade of C or better and Mathematics 380.

464-6 (3, 3) Numerical Analysis. (Same as Mathematics 475.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Prerequisite: for a, Mathematics 221 and 250 and a working knowledge of FORTRAN; for b, 464a and Mathematics 305.

470-3 Computer Simulation Techniques. Applications and rationale. Design and analysis of discrete simulation models. Generation of random sequences and stochastic variates. Simulation languages. Prerequisite: 202 and Mathematics 380.

471-3 Introduction to Optimization Techniques. (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202 and Mathematics 221 and 250.

472-3 Linear Programming. (Same as Mathematics 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 202 and Mathematics 221.

- 485-3 Computer Graphics.** Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 220 and 302 each with a grade of C or better; Mathematics 150 and 221 are recommended.
- 490-1 to 6 (1 to 3 per semester) Readings.** Supervised readings in selected subjects. Prerequisite: consent of instructor and department.
- 491-1 to 4 Special Topics.** Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.
- 492-1 to 6 (1 to 3 per semester) Special Problems.** Individual projects involving independent work. Prerequisite: consent of department.
- 493-1 to 4 Seminar.** Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

Construction Technology (Program, Major, Courses)

The construction technology curriculum is designed to meet the needs of the construction industry. Particular emphasis is placed upon residential and light commercial construction. The technician working in construction must be able to communicate in the language of the industry, understand and interpret construction drawings, specifications, and methods of building fabrication and assembly. Technicians must also be capable of working in the area of middle management that exists between architect and craftsman. The technician is expected to carry out the mandates of building design. The program provides sufficient theory and laboratory work so that the graduate can perform in areas of design, drafting, construction methods, estimating, and supervision.

The curriculum is designed to accept both new freshmen and transfer students. Students entering with industrial experience or courses taken in the military may be given credit by proficiency or transcript evaluation.

Students entering this program should expect to spend about \$150 over a two-year period for instruments, tools, materials, and supplies.

The program is served by an advisory committee whose members have extensive experience in the construction field.

Graduates of the program may find employment as construction engineering aides, assistants within the construction supervision field, building materials sales representatives, building code inspectors, and estimators.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experiences.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Construction Technology

GED 101 and 153	6
Technical Careers 105a,b, 107a,b, 120	11
Construction Technology 100, 102, 103, 104, 105, 110, 111, 125, 203, 207, 208, 209, 210, 211, 225	48
Electives (in Humanities or Social Sciences)	3
Total	68

Courses

- 100-1 Construction Orientation.** The student will be given an overview of the construction industry and the various job opportunities available. Guest speakers and field trips are included.
- 102-4 Construction Drawing and Blueprint Reading.** Students will learn to read architectural drawings, to sketch shop drawings and construction details, and to mechanically draw typical plans often included in a set of house plans. Lecture/laboratory six hours. Materials fee, \$3.
- 103-4 Concrete Technology.** The student will obtain knowledge of concrete, its physical and me-

chanical properties, and the design and control of concrete mixes. In addition, forming systems and the use of concrete as a building material in residential and light commercial construction will be demonstrated. Materials fee, \$3.

104-4 Surveying in Construction. The student will perform basic surveying operations necessary for the location, lay-out and construction of a building. Interpretation of plat books, site plans, and topographic maps is included. A major portion of the course will be spent in field work. Lecture/laboratory six hours. Material fee, \$2.

105-2 Construction Codes, Specifications, Inspection and Safety. This course is designed to make the students aware of safety practices on the job site, OSHA standards and accident prevention. Also, knowledge of building codes, architect and government specifications and building inspection procedures as commonly found in residential and light commercial construction will be discussed. Lecture two hours.

110-5 Residential Framing and Exterior Finish. Students will acquire the basic skills necessary to layout and build a wood frame home. Emphasis is placed on proper layout, fabrication, and erection techniques for floor, wall, and roof frame systems. Lecture/laboratory eight hours. Materials fee, \$6.

111-3 Interior Finish. The student will acquire the skills and knowledge necessary to complete the interior of residential or light commercial buildings. Emphasis will be given to shop and site operations required to install mouldings, cabinets, doors, windows, and wall, floor, and ceiling finishes. Lecture/laboratory eight hours. Eight weeks. Materials fee, \$6. Prerequisite: 110.

125-3 Structural Mechanics I. Students will learn fundamental principles of mechanics as they apply to stationary structures. Students will apply these principles and use tables and formulas in the determination of loads and the selection of wooden members and steel connectors which will safely carry these loads on floor and roof systems. Lecture three hours. Prerequisite: School of Technical Careers 105 or consent of department.

203-3 Construction Materials. The student will gain knowledge of physical properties, material composition, and use of materials in residential and light commercial construction. Lecture three hours. Materials fee, \$2.

207-3 Construction Management. Students will gain knowledge of construction management functions, primarily from the point of view of the building contractor. Emphasis will be placed on business operations as they relate specifically to the construction industry. Lecture three hours. Materials fee, \$3.

208-3 Construction Cost Estimating. The student will be able to assist in the preparation of construction cost estimates. Actual working drawings and specifications are used extensively. Emphasis is on quantity take-off and the development of unit costs from given or derived data. Lecture three hours. Materials fee, \$3. Prerequisite: 102.

209-4 Mechanical Systems. The student will obtain knowledge of electrical, plumbing, heating, and air conditioning systems commonly found in residential and light commercial buildings. Emphasis is placed on interpretation of local, state, and national codes. Active and passive solar systems are also studied as alternatives to conventional heating and cooling systems. Lecture four hours.

210-3 Remodeling and Renovation. Students will acquire knowledge of the techniques and technologies necessary to remodel, repair, or renovate existing residential and small commercial buildings. The student will study the design and construction techniques required to convert unused areas into additional living space, additions to existing structures, upgrading of mechanical and electrical systems to meet building codes and repair, renovation and maintenance of older buildings. Lecture/laboratory eight hours. Eight weeks. Materials fee, \$6. Prerequisite: 111.

211-3 Commercial Construction. Students will acquire the technical background necessary to perform operations in the construction of prefabricated single family and multi-family dwellings, agricultural buildings, prefabricated commercial and industrial metal buildings, and prefabricated concrete buildings. Lecture three hours. Prerequisite: 111.

225-3 Structural Mechanics II. Students will extend their abilities to assist engineers, architects, builders in determining stresses in members of trusses and in selecting proper-sized steel beams or open web joists, wood or steel columns or struts, welded joints, and reinforced concrete beams, footings, and basement walls. Lecture three hours. Prerequisite: 125, Technical Careers 105.

303-3 Advanced Concrete Technology. Provides the student with knowledge of the design and use of specialty concrete, admixed concrete, architectural concrete, structural concrete in commercial construction, and precast concrete products. Knowledge of types and methods of steel reinforcement, concrete inspection procedures, and ASTM Testing Standards will be acquired. Successful completion of this course can lead to certification by the American Concrete Institute as Concrete Field Testing Technician-Grade I. Lecture/laboratory. Prerequisite: associate degree with construction technology major or consent of department.

307-3 Computer Applications in Construction. Will advance the computer training students received in the associate degree construction technology courses. Students will study advanced computer problems in estimating, scheduling, planning, marketing, mechanical system sizing,

and performance. Students should learn to interpret computer-generated data and how to modify programs to meet changing industry needs. Prerequisite: associate degree in construction technology or consent of department.

25-3 Quality Assurance in Construction. The student is introduced to the role of the construction inspector, will develop skills of communication with the trades and management, and will acquire knowledge of quality assurance systems, documentation techniques and significant legal aspects of construction failures. Lecture three hours. Prerequisite: 102, 103, 105, 125, 203, 225, and Technical Careers 107, equivalent experiences, or consent of instructor.

Consumer Economics and Family Management

(Major, Courses)

The consumer economics and family management program is a part of the Division of Advanced Technical Studies. Issues in consumer economics and consumer affairs are of growing interest to consumers, business, and society. This program is concerned with (1) consumer's role and effectiveness in the marketplace, (2) the family's management of limited or restricted resources, and (3) consumer affairs in business and government. A minor in consumer studies is also available.

This program prepares students for professional opportunities in consumer affairs in industry and government. Special emphasis is placed on the role of the consumer in the marketplace and the consumer's relationship to private enterprise and government agencies. A key focus of the program is the application of concepts and the critical analysis of problems and issues affecting the consumer's interests and choices.

Bachelor of Science Degree, College of Technical Careers

<i>General Education Requirements</i>	46
GEA	9
GEB 108, 202 and 211 required	12
GEC	9
GED 101, 102, 107, and 153 required	12
GEE	4
<i>Requirements for Major in Consumer Economics and Family Management</i>	39
Core Requirements: Advanced Technical Studies 364, 416 and two of the following: 332, 383, 421	12
Specialization Requirements	23
Consumer Economics and Family Management 340, 341, 350, 465, 494-4, 499	17
Finance 280	3
Marketing 304	3
<i>Recommended Electives</i>	39
Consumer Economics and Family Management 370; GEA 221, 230, 240, 312; GEB 114; Accounting 210; Vocational Education Studies 335, 337, or 345; Finance 310, 320, 370, 380; Food and Nutrition 156, 215, 321, 335, 356; Marketing 305, 329, 363, Political Science 321; Radio-Television 467; Speech Communication 221.	
<i>Total</i>	120
Minor in Consumer Studies	

The consumer studies minor offered is designed to give students background in consumer economics.

Required courses: Consumer Economics and Family Management 340, 341, 465 and 494.

Courses

240-3 Consumer Resources. An introduction to the resources available to young adults in tackling consumer problems and disputes in housing, automobile care, health services, food purchases, educational expenditures, money management, and other areas of interest to the student. Special attention is given to community and university agencies such as IPIRG, tenant union, chamber of commerce, attorney general's office, and other organizations helpful in resolving problems.

320-2 Household Equipment. Materials, construction, selection, operation, and care of equipment to provide maximum satisfaction to the family are identified. Some emphasis placed on design and use of kitchen and laundry areas.

330-3 Housing. An examination of the physical characteristics of housing as they relate to family needs, wants, and capabilities, as well as the social and economic factors which affect satisfaction associated with family shelter. Field trip.

331-3 Human Environment and Living Space. A study of the living spaces of homes and the relationship of these spaces to the social, economic, and aesthetic needs of humans.

340-3 Consumer Problems. Study of family income and expenditure patterns, selection of commodities and services, and an analysis of consumer protection devices.

341-3 Consumers and the Market. The impact of market and governmental activities on consumers' decision-making. Analysis and evaluation of programs designed to inform and to protect consumers.

350-3 Management of Family Resources. A study of factors affecting the management of the home in meeting needs of individuals and creating a satisfying environment for the family. Special consideration given to management of time, money, and energy resources.

351-2 Home Management Practicum. Analysis of current management situations and family resources use with practical application of basic principles. Additional costs required. Prerequisite: 350 and consent of chairperson.

370-3 Management for Low-Income Families. Job-oriented course for social welfare careers; selected concepts in family economics and management with application to the low-income family.

380-2 to 6 Special Problems. Selection and investigation of a special problem under personal supervision of departmental faculty, approved by chairperson and instructor. Every semester.

407-1 to 3 Workshop. Designed to aid workers in professions related to use of family resources. Emphasis for each workshop will be stated in the announcement of the course. Every semester.

420-3 Trends in Household Equipment. Design, function, principles of operation, current trends, and ecological problems related to equipment use in household and society are considered. Prerequisite: 320.

430-3 Housing Alternatives. Selected aspects of the housing market and their relationship to changing life styles of households. Structure, operations and performance of the housing market and home building industry, housing finance, and contemporary housing problems and issues are considered. Fall Semester. Prerequisite: 330 or consent of instructor.

445-3 Family Financial Management. Developments in family financial management and the evaluation of methods and procedures for helping families, with emphasis on the role of the consultant. Case studies and simulation, as well as field problems, are included. Fall semester and alternate summers. Prerequisite: 340 and 350, equivalent, or consent of instructor.

451-3 Household Activity Analysis. A study of work methods and place, as well as the characteristics of the worker, in relation to solving problems of employed, full-time, and handicapped home managers.

465-3 Consumer Relations. A study of the information and skills business representatives need to conduct and manage consumer relations such that the objectives of both consumers and business are met. Emphasis will be placed on consumer service management and communication skills. Consumer relations is viewed as a strategy to generate consumer satisfaction and loyalty, as well as a course of consumer feedback for upper management regarding the improvement of products and services. Not for graduate credit. Prerequisite: senior standing or consent of instructor.

494-1 to 4 Field Experience. Supervised learning experiences in an acceptable employment area. Every semester. Prerequisite: 370 and consent of chairperson.

499-1 Senior Seminar. A study of contemporary issues in the field of family economics and management including the concerns of new professionals entering the field. Not for graduate credit.

Curriculum and Instruction (Department, Majors, Minors [Educational Media, Child and Family Services], Courses)

The Department of Curriculum and Instruction offers four majors in its undergraduate program: early childhood with specializations in preschool/primary, kindergarten through grade three, and child and family services; elemen-

tary education; language arts; and social studies. Minors in child and family services and educational media are also available, as well as courses for those students pursuing the standard high school certification program. The department offers programs to prepare students to qualify for the following Illinois teaching certificates: Early Childhood Certificate (for teaching ages 0-8); standard Elementary Certificate (for teaching in grades K-9); or Standard High School Certificate (for teaching in grades 6-12). Students may enter the department (1) directly from within the College of Education, (2) from the General Education program, (3) from other academic units, or (4) from other institutions of higher education.

Early Childhood Major

This program encompasses the professional training needed to assume a variety of roles such as infant development specialists; child life practitioners; early childhood teachers and administrators; teacher and parent educators; family service workers; and teachers of young children in elementary schools.

EARLY CHILDHOOD MAJOR – PRESCHOOL/PRIMARY SPECIALIZATION

Students interested in teaching children 0-8 years of age in private or state-approved settings may elect to participate in the early childhood major leading to early childhood certification. Specifically designed to prepare future teachers of children up to the age of 8, this program will lead to the State of Illinois Early Childhood Certificate.

There are sequential steps for advancement in the early childhood major with preschool/primary specialization program.

1. Completion of Curriculum and Instruction 245 and two other courses in the major with a grade of C or better, an overall grade point average of 2.25, and a favorable vote of the early childhood faculty.
2. To be eligible for student teaching, a student must have attained a minimum grade point average of 2.50 in the major, successfully completed Curriculum and Instruction 227, 237, 245, 317, 318, 319, 337, 404, 405, 419, Education 312, Special Education 400 and 412; have made preliminary application for student teaching; and be approved by the coordinator of the early childhood major based on performance in the above courses. Applications for student teaching must be submitted within the first two weeks of the semester during which the student is enrolled in Curriculum and Instruction 318.

General Education Requirements.....	46
Including GEB 202; GEB 114 and 301; GEC 213; Music 101; GED 101, GED 102; GEE 201 and Physical Education activity class.	
Requirements for Major in Early Childhood with Preschool/Primary Specialization	72
Curriculum and Instruction 227, 237, 245, 312, 317, 318, 319, 325, 337, 404, 405, 414, 418, 419, 435.....	46
Education 312, 401 ¹	14
Psychology 301	3
Special Education 400, 412	6
Speech Communication 340.....	3
Electives	12
Selected to meet general education requirements for certification	
Total	130

¹One-half of the practicum time will be spent in the primary setting and one-half in a preschool or infant/toddler setting.

Further enrichment in special education, infant development, administration of programs, and family studies can be selected by contacting the adviser for a list of recommended courses.

EARLY CHILDHOOD MAJOR – KINDERGARTEN THROUGH GRADE THREE SPECIALIZATION
In the early childhood major with kindergarten through grade 3 specialization, special emphasis is placed on teaching young children in the elementary school. This major leads to the State of Illinois Standard Elementary Certificate.

In order to qualify for retention in the teacher education program, students must have completed two Curriculum and Instruction courses with a C or higher grade, attained a grade point average in the major of at least 2.50 and obtain a favorable vote of the early childhood faculty.

<i>General Education Requirements and Additional General Education Requirements for Major</i>		77
Physical and Biological Sciences (GEA)	9	
Social Sciences (Including GEB 114 and 301)	15	
Fine Arts (Including GEC 100, 101, or Music 101; Curriculum and Instruction 325; and Art 348)	9	
Language Arts (Including GED 101 and 102; GED 152 or 153 and GEC literature)	12	
Mathematics (Including Mathematics 114 or equivalent to substitute for GED 107 and Mathematics 314)	7	
Health and Physical Education (Including GEE 201 and 2 hours of physical education activity and Physical Education 202)	7	
Electives selected to meet general education requirements for certification ¹	18	
<i>Professional Education Requirements</i>		25
See Teacher Education Program, Chapter 3.		
<i>Requirements for Major in Early Childhood with Kindergarten Through Grade Three Specialization</i>		28
Curriculum and Instruction 213, 312, 315, 316, 324, 423, 426, 427 ¹ , 435 ¹ , Speech Communication 340		
<i>Total</i>		130

¹Applies as a general education certification requirement for major.

EARLY CHILDHOOD MAJOR–CHILD AND FAMILY SERVICES SPECIALIZATION

This program in child and family services offers preparation leading to positions as administrators and/or teachers in non-public school child care programs, including day care centers, nursery schools, family day care homes, and college child care facilities; administrators or workers in residential living facilities for exceptional children; child care and family life specialists with social and public health agencies; home economics extension specialists in child care; specialists in family life and parenting education; and infant care specialists.

<i>General Education Requirements</i>	46
Including GEB 108 and 202, GED 152	
<i>Requirements for Major in Early Childhood with Child and Family Services Specialization</i>	39
Curriculum and Instruction 227, 237, 317, 318, 319, 327, 337, 404, 414, 417, 495, Education 312	

<i>Electives</i>	35
Recommended for Preschool Director and Teachers: Curriculum and Instruction 325, 390h, 453, 455, 498h; Botany 390; Art 348; Physical Education 202; Special Education 400; Psychology 301.	
Recommended for Child/Family Care Specialists in Social Services: Psychology 305; Social Work 375, 383, 391; Special Education 400; Sociology 426; Curriculum and Instruction 390h, 498h.	
Recommended for Residential Life Directors and Supervisors: Health Education 334; Special Education 400, 401, 402, 403; Communication Disorders and Sciences 104, 316; Curriculum and Instruction 326; Recreation 300; Social Work 375, 383; Psychology 301, 451.	
Recommended for Infant Care Specialists: GEA 115, GEB 262; Curriculum and Instruction 405; Health Education 334; Psychology 301.	
<i>Total</i>	120

Elementary Education Major

A Bachelor of Science degree with a major in elementary education entitles the student to apply for the State of Illinois Standard Elementary Certificate, which will allow the holder to teach in kindergarten through grade nine.

Elementary education majors select an area of interest consisting of eighteen semester hours of electives in science, language arts, social sciences, mathematics, language other than English, educational media, or fine arts.

In order to qualify for retention in the teacher education program, students must have completed two Curriculum and Instruction courses with a *C* or higher grade, attained an overall grade point average of at least 2.25 and obtained a favorable vote of the elementary education faculty.

General Education Requirements and Additional General Education

<i>Requirements for Major</i>	53
Physical and Biological Sciences (GEA)	9
Social Studies (Including GEB 114, 202, and 301; and GEC 213)	15
Fine Arts (Including GEC 100, 101, or Music 101; must include one music and one art course, which may be taken as part of GEC)	6
Language Arts (Including GED 101 and 102, GED 152 or 153 and GEC literature)	12
Mathematics (Including Mathematics 114 or equivalent to substitute for GED 107 and Mathematics 314)	7
Health and Physical Education (GEE)	4
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Specialization Requirements for Major</i>	40
Curriculum and Instruction 312, 315, 423, 424, 426, 427 ² , 435 ²	22
Electives	18 ¹
Electives to be selected from one of the following areas: science, language arts, social sciences, mathematics, language other than English, educational media, or fine arts	
<i>Electives</i> ³ (eight hours must be in Curriculum and Instruction courses)	10
<i>Total</i>	128

¹Elective hours selected to meet general education requirements for certification.

²Applied as a general education certification requirement for major.

³Many states require a course on special needs learners and two courses in reading methods. Two courses in reading are required for teaching in Chicago schools.

Majors To Prepare For Secondary School Teaching

Students who elect to pursue a Bachelor of Science degree in the College of Education, for purposes of preparing to teach in junior or senior high schools, should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois University at Carbondale has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

TEACHING AREA	MAJOR	MINOR ¹
Agriculture, General ²	X	
Art	X	
Biological Sciences	X	X
Black American Studies		X
Chemistry	X	X
Earth Science		X
Economics		X
Educational Media		X
English	X	X
Foreign Languages ⁴	X	X
Geography	X	X
Health Education	X	
History	X	X
Language Arts (English and Reading)	X	
Mathematics	X	X
Microbiology		X
Music	X	X
Philosophy		X
Physical Education	X	X
Physics	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Speech Communication	X	X
Theater		X
Vocational Education	X	X
Business Education Specialization		
Health Occupations Education Specialization		
Home Economics Education Specialization		
Industrial Education Specialization		
Zoology ³	X	X

¹All minors used for certification purposes must meet the minimum number of hours specified in *State Board Document I*.

²Requirements for the major in general agriculture may be found in the catalog section titled Agricultural Education and Mechanization.

³A student with a major in zoology should have a minor in botany in order to meet certification standards for teaching biology at the high school level.

⁴Majors and minors are offered in the specific languages. The student should consult the academic adviser for information concerning the majors and minors available.

Each student who wishes to apply for the Standard High School Certificate through the certification entitlement process at Southern Illinois University at Carbondale must fulfill the following requirements of the University's Teacher Education Program:

1. The individual must have completed a baccalaureate program at Southern Illinois University at Carbondale.
2. The individual must have completed one of the approved majors included in the previous listing.
3. The individual must have fulfilled requirements for certification related to the state and federal constitutions and an American government or American history course by either (a) taking GEB 114 and 301 or History 300; (b) taking a course in American history and political science other than those listed in (a), above, and passing the constitution test administered by Southern Illinois University at Carbondale; (c) presenting written notification from another institution that a course in American history and political science has been passed and that the Illinois and United States Constitutions tests have been passed.
4. The individual must have fulfilled certification requirements in health and physical education which can be satisfied by taking GEE 201 and two hours in GEE 100-106 and 114 courses.
5. The individual must have completed the sequence of professional education courses with a grade of C or better. See Teacher Education Program, Chapter 3.
6. The individual must have completed a special methods course pertaining to the major.
7. The individual must have fulfilled State Teacher Certification Board general education distributions in the required areas: communication skills, science and mathematics, social sciences, humanities, health and physical development.

Students who wish to prepare to teach in middle school or junior high schools should inform their advisers of this interest early so they can include in their programs those courses which will prepare them for teaching in that area and meet Illinois State Board of Education Document 1 requirements. The student's electives should be planned to include course work in a subject matter area of major interest to the student.

Language Arts (English and Reading) Major

This program is designed to meet the needs of students who wish to teach English language arts (including reading) at the junior/middle school level, or who wish to teach high school students whose language skills are not up to high school level. The graduate of this program will be qualified to work with the language skills development which is crucial during early and middle adolescence. To develop such qualifications, students in the program learn how language skills are developed, the characteristics of the early and middle adolescent, and the variety of content, including literature, which can be used with these young people. The student also will gain an understanding of how these components can be integrated in a variety of school and classroom formats.

The content courses provide the substance or building blocks for use in the methodology courses, where teaching strategies are explored and experienced. The clinical experiences provide the guided practice where the student begins practical skill development, synthesizing and applying an understanding of English language arts content, learning and teaching strategies, adolescent behavior, and public school curricular needs.

General Education Requirements.....	46
Including GEB 114, 202, and 301; GEC 213; GED 101 and 102; GED 152 or 153; GEE 201, 2 semester hours of Physical Education activity course.	
Requirements for Major in Language Arts (English and Reading) ¹	45 ²
GEC 200.....	(3)
English 290 or 390, 300, 302a or 302b, 309, 365, 481, 485	21

Curriculum and Instruction 361, 445, 407f, 423, 462	15
Electives	9
Electives representing a maximum of 6 hours in any one category:	
Curriculum and Instruction 393c,f, 407c, 402, 464.	
Speech Communication 430; Speech Communication 465 or Philosophy 425; or Speech Communication course beyond 200.	
Theater 410.	
One of: English 281, 282, 283; Curriculum and Instruction 410.	
Linguistics (course deemed appropriate by adviser).	
Professional Education Requirements	25
See Teacher Education Program, Chapter 3.	
Electives	4
Total	120

¹In order to qualify for the professional semester assignment, students must have a grade point average of at least 2.25 in the major.

²Although the hours shown in parentheses are required for the major, they will also count toward the 46-hour requirement in General Education.

Social Studies Major

This program is designed to meet the needs of students who wish to teach social studies in the middle/junior high school or the senior high school. The graduate of this program will be qualified to teach social studies, history, political science, geography, sociology, and economics, based on requirements of the Illinois State Teacher Certification Board.

The complex nature of our competitive, pluralistic society mandates social studies curricula which prepare future citizens to comprehend and adjust to a changing social environment. The goal of the social studies program is to prepare prospective social studies teachers for the role of leadership in guiding middle school, junior, and senior high school students to live as effective citizens in a democratic society.

Content and professional course work provide the foundation used in the social studies methods course, where teaching methods and strategies are explored and experienced. A series of clinical experiences provide the social studies major an opportunity to use the knowledge and skills acquired in the program. A cooperative teaching and university supervisor will assist the student blend knowledge and skills with adolescent behavior and curriculum needs.

General Education Requirements	46
Including GED 101 and 102; 3 semester hours of mathematics; 3 semester hours of speech or other oral communications; GEE 201; 2 semester hours of physical education activity courses; one GEC literature course and GEC 213	
Requirements for Major in Social Studies	49 ¹
GEB 301, History 300, U.S. history elective	(3) + 6
History 205a, 205b, world history, plus 3 hours at the 300 or 400 level	9
Economics 214, 215, economics elective	9
GEB 114, Political Science 213, political science elective	(3) + 6
GEA 330, Geography 300, geography elective	(3) + 5
GEB 104, 202, Sociology 301	(6) + 4
Electives to be chosen from one of the three departments of	
anthropology, psychology, or sociology	
Curriculum and Instruction 469	3

Professional Education Requirements	25
See Teacher Education Requirements, Chapter 3.	
Total	120

¹Although the hours shown in parentheses are required for the major, they will also count toward the 46 hour requirement in General Education.

Child and Family Services (Minor)

The minor in child and family services is designed to provide students with basic knowledge in early childhood or family studies. The selection of coursework is flexible so that courses can be adapted to the special interests of students with diverse backgrounds and goals. Students are expected to honor all prerequisites in their selection of courses. A minimum of 16 hours of coursework are required as follows:

Curriculum and Instruction 227, 237	6
Electives to be chosen from the following:	10
Early Childhood Emphasis: Curriculum and Instruction 245, 337, 390H, 404, 498H	
Family Studies Emphasis: Curriculum and Instruction 327, 390Q, 414, 498Q	

Educational Media (Minor)

Persons trained as teachers may qualify as school media professionals by completing the following courses: Curriculum and Instruction 438, 439, 440, 442, 435 or 445 and 453. Other courses in the utilization and administration of teaching materials are designed to train both audiovisual coordinators and librarians to become fully qualified educational media specialists who can administer all teaching materials.

Courses

- 199-1 The Library as an Information Source.** Designed to expose undergraduate students to the basic concepts and structures of the library. This would enable students to use their knowledge in completing reading and term paper assignments as well as in gaining confidence for independent work in the library.
- 209-2 Philosophy of Creativity.** The creative process in developing child. Emphasis will be upon the levels, dimensions, and individuality of creativity as it is manifested, observed, and nurtured in preschool children. (To be taken concurrently with Child and Family 240 and 245 by early childhood preschool majors.)
- 212-2 Reading College Texts.** Textbooks, supplementary materials, and evaluative instruments will be analyzed. Attention will be given to determining usability, feasibility, learnability, and teachability of instructional materials. The following factors will be investigated: content structure and organization, concept density, conceptualization levels, readability, and format.
- 213-2 Understanding the Elementary School Child.** Child development concepts necessary for understanding the elementary school child, with information provided on preschool, primary, and intermediate grade levels.
- 227-3 Marriage and Family Living.** (Same as Women's Studies 286.) A study of relationships and adjustments in family living, designed largely to help the individual. To help student better understand the recent changes that have occurred in marriage and the family in the United States.
- 237-3 Early Child Development I.** Principles of development and guidance of children as applied to home situations. Directed observations of children from 0 through 6. Understanding the social, emotional, physical, and intellectual development of the preschool child.
- 245-3 Professional Development Seminar.** Introduction to early childhood with an emphasis on personal and professional development as preparation for work with children, parents, and professional peers. Acquaints students with the varied career options, approaches to programming, and professional personnel in working with children under eight. Some field trips will be taken.
- 258-1 to 4 Credit for Work Experience.** This course includes work experiences relevant to the student's major program, such as work in day care centers, teacher's aid in public school, or with federal, state, or local agencies or programs that deal with children. Prerequisite: 12 semester hours completed with a grade of B or better in the student's major area of concentration in the C&I

department and consent of undergraduate affairs committee, Department of Curriculum and Instruction.

312-3 Teaching Reading in the Elementary School. Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formulation of a philosophy of reading and its implications in relation to methods, materials, organizational procedures, and evaluation techniques.

315-3 Teaching Mathematics in the Elementary School. Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction, with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per week. Prerequisite: Mathematics 114 and 314, or consent of instructor.

316-2 Early Childhood Education Methods and Curriculum (K-3). Philosophy and principles underlying the teaching of four-to-eight-year olds. Emphasis upon organization, equipment, materials, and methods for promoting growth of young children. Prerequisite: concurrent enrollment in Education 302.

317-3 Guiding Play As a Learning Medium. Focuses on play as an integral part of a child's learning. Covers appropriate ways to guide children in their play activities and routines and ways to develop creativity in children. Includes observation of children in the child care setting. Prerequisite: 237 or consent of instructor.

318-4 Instructional Methods for the Preschool-Primary Child I. Planning optimum learning environment for children at the preoperational and concrete operational stages of preschool-primary cognitive development. Emphasis on integrated learning and appropriate instructional methods in the content areas of language arts and social sciences. Concurrent enrollment in one hour of Education 312 is required to provide practical experiences two half days per week. Practicum experiences will be provided in a preschool setting for seven weeks and in a primary setting for seven weeks. Prerequisite 237, 317, or consent of instructor.

319-3 Instructional Methods for the Preschool-Primary Child II. Planning optimum learning environment for children at the preoperational and concrete operational stages of cognitive development (preschool-primary). Emphasis on integrated learning and appropriate instructional methods in the content areas of mathematics and science. Concurrent enrollment in one hour of Education 312 is required to provide practical experiences one half day per week. Practical experiences will be provided in a preschool setting for seven weeks and in a primary setting for seven weeks. Prerequisite: 318 or consent of instructor.

324-2 Early Childhood Social Learning Methods. The objectives, procedures, and methods of designing and implementing social learning environments for early childhood education programs; including an overview of significant early social learning theory and practice. Two hour block required for practicum experiences.

325-3 Young Children and the Arts. The development of creativity in young children. Methods and curriculum that foster creativity in graphic expression, music, and creative movement among preschool and primary school children.

326-2 Music in Special Education. Deals with procedures and techniques for using music in the special education classroom. Attention will be given to the general education nature of music, listening, singing, using instruments, structuring music, and teaching techniques. Prerequisite: Music 101 or equivalent.

327-3 Family Studies. Study of changing patterns in family living throughout the family life cycle. Insights into common current family problems typical of each stage of the family life cycle. Prerequisite: 227.

328-2 Teaching Music in the Intermediate Grades. For non-music majors only who may be expected to teach music in grades 4-6. Emphasis on music skills and related theory. Contemporary materials and instructional methodology will be utilized. Prerequisite: Music 101 or equivalent.

337-3 Early Child Development II. The specific behaviors of both parents and teachers are examined to determine the effect they have on the development of the preschool child's desirable and undesirable behavior. Prerequisite: 237.

361-3 Teaching Reading in High School. A foundation course in how to teach reading in junior and senior high school; developmental and remedial reading programs; appraisal of reading abilities; methods and materials of instruction in the content areas.

390-1 to 3 Readings. In-depth reading in various areas of education as related to the fields of (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (m) instruction, (n) educational media, (q) family studies. Prerequisite: consent of instructor.

393-1 to 6 Individual Research in Education. The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental staff in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (m) instruction, (n) educational media, and (o) environmental education, (q) family studies. Maximum of 6 hours to be counted toward a bachelor's degree. Prerequisite: consent of instructor.

400-2 Simulation and Gaming. The role of simulation and gaming in instruction, the availability of commercial games and simulation devices, and the theoretical backgrounds used in constructing teacher-made games are to be examined.

- 402-3 Education for Disadvantaged and Culturally Different Students.** The student examines the characteristics of behavior and learning patterns of culturally different and socioeconomically disadvantaged children. Content also includes school adjustment, experiential background, self-concept, language development, and appropriate teacher behaviors and teaching strategies.
- 404-3 Infant Development.** Current theories and knowledge concerning growth and development of infants with related laboratory field experiences. Prerequisite: 237 or Psychology 301 or equivalent.
- 405-4 Methodologies For Group Care of Infants and Toddlers.** Application of theories of development of children up to age 3 in a care and stimulation practicum. Development of competencies and skills needed by infant/toddler specialists and professionals. Three hours seminar, two hours practicum. Prerequisite: 404 or consent of instructor.
- 407-3 to 9 (3 per topic) Diagnostic and Corrective Techniques for the Classroom Teacher.** A presentation of diagnostic and remediation techniques with emphasis placed on appropriate methods and materials to be used in classrooms in the areas of (c) language arts, (e) mathematics, and (f) reading. Prerequisite: special methods course in field selected by student and/or consent of instructor.
- 409-3 Creative Teaching.** To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 302.
- 410-2 Creative Writing in the Public School.** Techniques of encouraging creative writings in the schools.
- 412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3).** Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) language arts, (d) science, (e) mathematics, (f) reading, and (g) social studies. Prerequisite: specialized methods course for the field of study selected by the student.
- 413-3 Language Development of the Young Child, 0-8 .** The normal language development and communication skills of the young child will be the focus of this course; attention will be given to an integrated, holistic philosophy toward development and learning in young children ages 0-8; specifically focussing upon social and environmental influences on the development of language and literacy, students will observe, listen, record, and analyze samples of young children's communication.
- 414-3 Practicum in Parent-Child Study.** Designed to increase student's ability to work with parents and parent groups through an awareness of factors in the parent-child relationship and knowledge of current research and methods in parent education. Integration with infant and child development laboratories and related field experience. Prerequisite: 227, 237, or equivalent.
- 415-3 Modern Approaches to Teaching Middle School Mathematics (Grades 4-8).** Examines current mathematics materials and teaching approaches. Hands-on experience with a multitude of teaching aids including microcomputers and problem solving materials. Student exchange of ideas and discussion of activities for classroom use. Prerequisite: 315 or consent of instructor.
- 417-3 Administration of Pre-School Programs.** Planning and organizing programs for pre-school or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 318 and 319.
- 418-3 History and Philosophy of Early Childhood Education.** A survey of the history and philosophies of early childhood education with its implication for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: 316, 318, senior or graduate standing.
- 419-3 Parent Involvement in Education.** Materials, techniques, and resources suitable for use by teachers in helping parents and teachers to understand how they can help each other in the partnership responsibilities of the education of children from a variety of backgrounds. Prerequisite: 317, student teaching, or consent of instructor.
- 420-3 Teaching the Adult Functional Illiterate.** The emphasis in the course will be on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunities available to the majority of citizens. Prerequisite: permission of instructor.
- 423-3 Teaching Elementary School English Language Arts.** Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment and resources.
- 424-3 Teaching Elementary School Social Studies.** Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum, and evaluating behavioral change. Study of learning materials, specialized equipment, and resources.
- 426-3 An Introduction to Teaching Elementary School Science.** Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462.) Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

428-3 Inquiry Skills for Teaching Junior and Senior High School Science. The major focus will be the application of inquiry skills as used in all areas of science instruction at the junior and senior high school levels; students will be expected to demonstrate mastery of basic and integrated science process skills through conducting and reporting results of science investigations.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and, integration of literature in pre-school, elementary, and library settings.

436-1 Bibliography and Literature of Education. Introduction to the use of library resources for research in education. Includes bibliographies in education, the periodical literature, Office of Education publications, dissertation and thesis indexing services, and the Educational Resources Information Center (ERIC) materials. Students will learn to search the literature in preparation for literature review and will compile bibliographies in their own fields of interest.

437-3 Instructional Technology in Training Programs in Business and Industry. Examines the role that performance and instructional technology plays in current training practices in business and industry. The organization, staffing, budgeting, and evaluation of training and development departments is presented. The kinds of performance problems typically encountered by corporate training departments are addressed. Field trips are expected.

438-3 Introduction to Technical Services. Organization of library materials. Emphasis on cataloging and classification. Includes acquisition, processing, and circulation of materials. The Dewey Decimal classification system and Sears list of subject headings are stressed. Laboratory assignments.

439-3 Basic Reference Sources. Introduction to the principles and methods of reference work. Concentration on the study and examination of the tools which form the basic reference collection of the school and the community college library.

440-3 Selection of School Library Media. Evaluation of print and non-print materials, resources, and services; competencies for efficient purchasing and selecting of library materials. Includes selection principles and problems for elementary, secondary, and community college libraries.

442-4 Administration of the School Media Program. Functions and management of elementary and secondary school library media programs with emphasis on services, personnel, financial aspects, facilities, and evaluation. Current issues and trends as reflected in the literature. Field trips to school library media centers.

445-3 Library Media for Young Adults. The selection and use of books and other educational media for students in the junior high and senior high school.

450-3 Photography for Teachers. Photography as a tool of communication in the modern school. Techniques of camera handling, visually planning a story, macro-photography, and color slides. A \$10 laboratory fee is required.

451-3 Photographic Preparation of Educational Media. Techniques of photography used in producing prints, overhead transparencies, daylight slides, high contrast materials, picture stories, filmstrips, and other photographic instructional materials. Prerequisite: 450 or consent of instructor. A \$10 laboratory fee is required.

452-3 Small Format Video Production in Education. An introduction to small format black-and-white and color video equipment in educational settings. Emphasis is on understanding the role of video as an instructional and informational tool and on the principles of design that determine instructional video's effectiveness.

453-3 Production of Educational Media I. Principles, skills, and techniques in the design and production of basic nonphotographic educational media. Experience includes applying lettering, coloring, and mounting techniques to projected and nonprojected media. A \$10 laboratory fee is required.

455-3 Design and Development of Self-Instruction Systems. Introduction to the theory and practice of self-instruction systems with a particular emphasis on the creation of instruction for mastery. Various self-instruction systems are reviewed and procedures for designing, developing, and evaluating these systems are discussed. Includes planning a teaching unit and creating a self-instruction package for the unit.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of programming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the pre and early adolescent student. It is anticipated that the student will be able to plan and develop teaching units and evaluate procedures complementary to this portion of the school structure.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

- 465-3 Advanced Teaching Methods.** The focus is on a variety of teaching methods and strategies which are appropriate for secondary and/or post-secondary educators. Both individual and group methods are emphasized.
- 467-3 Methods and Materials in the Education of the Gifted.** Content focuses on the most appropriate instructional strategies and materials to be utilized with the gifted. Time spent practicing teaching models, designing materials and developing teaching units. Emphasis placed on techniques for individualizing instruction for the gifted and talented students.
- 468-3 Science Methods for Junior and Senior High Schools.** A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 302 or consent of instructor.
- 469-3 Teaching Social Studies in the Secondary School.** Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels.
- 480-3 Introduction to Computer Based Education.** Introduction to microcomputers and their uses in the classroom, including computer evolution, languages and authoring systems, instructional modalities, word processing, instructional management, and software evaluation. Utility functions and basic commands in programming are also introduced.
- 481-3 Instructional Applications of Mainframe Computers.** Design, development, and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.
- 483-6 (3, 3) Instructional Applications for Microcomputers.** A study of the development and use of microcomputers systems in educational settings. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons, with case studies of their integration into the teaching, learning process.
- 486-3 Instructional Authoring Systems.** Designed to give students experience using authoring systems, languages and utilities for the design, production, and integration of computer assisted instruction into educational settings. Tools will include Superpilot, Author, and various commercial and consortium authoring tools. Prerequisite: 480 or consent of instructor.
- 495-2 to 8 Field Experience.** Supervised learning experiences in community nursery schools and public agencies. Eight hours maximum for students enrolled in preschool certification specialization only. Other students limited to an enrollment of six hours maximum. Prerequisite: consent of instructor.
- 496-2 to 6 (2 to 4 per semester) Field Study Abroad.** Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.
- 498-1 to 15 (1 to 3 per topic) Workshops in Education.** Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) school library media, (m) instruction, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

Dental Hygiene (Program, Major, Courses)

This program of study is designed to prepare the student to successfully enter the health profession of dental hygiene. The services provided by the dental hygienist are regulated by laws which may vary among the states. However, most states allow the services of scaling and polishing teeth, radiographic examination, patient education and nutritional counseling, application of cavity preventing agents and oral cancer and blood pressure screening. The clinical services performed by a dental hygienist are under the supervision of a licensed dentist.

Because dental hygiene is a licensed profession, the graduate must pass a written National Board Examination, as well as the appropriate State/Regional Board Examinations.

A licensed dental hygienist may be employed in private practice dental offices, in school systems, in public health, in research, in administration and education, in government institutions, or as a commissioned officer in the armed services.

Since the curriculum includes many science courses the entering student should have a thorough background in the basic sciences including chemistry, biology, and general sciences. Facilities limit enrollment to 50 students admitted only in the fall semester. Additional application information and procedures are required other than that required for admission to the University. Additional expenses of approximately \$2500 are required to cover the cost of instruments, uniforms, insurance, and other items in addition to textbooks and tuition.

The dental hygiene program offers an on-site clinic to provide the student with practical clinical instruction. Students perform dental hygiene services in the clinic under the direct supervision of dental hygiene faculty. The faculty is composed of licensed dentists and dental hygienists. The entire program is served by an advisory committee composed of representatives from community practices, dental education, dental industry and the professional associations.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale. The student will graduate with an Associate in Applied Science degree from the College of Technical Careers. This program is fully accredited by the Commission on Dental Accreditation of the American Dental Association.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Dental Hygiene

GEA 106.	3
GEB 202, Sociology 321	6
GED 101, 152	6
Microbiology 201	4
Allied Health Careers Specialties 141	4
Dental Hygiene 126, 133, 137, 138, 147, 201, 208, 209, 211a,b, 217, 218a,b, 226, 238, 240, 241, 248, 310a,b, 311a,b, 315, 348	60
Total	83

Courses

126-3 Oral Anatomy and Tooth Morphology. The student will learn to recognize and identify in detail the structures within the oral cavity including the tongue, salivary glands, lips and cheeks, and teeth, both permanent and primary. Laboratory emphasis will be placed on tooth identification, tooth and root morphology, and occlusal relationships to enhance application of instrumentation techniques. Lecture two hours, laboratory two hours.

133-2 Histology and Embryology. The student will learn the microscopic components of the primary tissue groups of the human body and will be expected to identify microscopically in detail, the dental tissues of the oral cavity. The course also enables the student to relate the embryonic development of the head to the normal and abnormal structures of the adult head and oral cavity. Lecture two hours.

137-5 Pre-Clinical Dental Hygiene. The student is introduced to the profession of dentistry with emphasis on the role and duties of a hygienist. Basic skills and techniques of instrumentation will be acquired using manikins in the laboratory followed by clinical experience on selected patients. Included will be didactic instruction in normal and abnormal tissue conditions, the role, function, and structure of hard and soft deposits, and stain. Additional skills, techniques, and procedures include clinical rules and procedures, aseptic technique, oral inspection, rules of professionalism, etc. Lecture two hours, laboratory six hours.

138-2 Oral Pathology. The student will learn to recognize the appearance, causes, and body's responses to pathological conditions including congenital disorders, circulatory, and neurological ailments, tumors, and neoplasms. Pathologic related physiology is also included over an area on a cellular level such as tissue regeneration, inflammatory process, and wound healing. Lecture two hours. Prerequisite: Allied Health Careers Specialties 141.

147-1 Preventive Dentistry. The course is designed to introduce the student to basic preventive dentistry measures. Subject matter is presented that is important in the understanding of the causes and means to control dental caries and periodontal disease. Emphasis is placed on assessment of patient's dental needs and planning for patient treatment. Lecture one hour. Prerequisite: 137.

201-4 Dental Materials and Assisting Techniques. The student will study the physical and

chemical properties of various dental materials used in dental practice including plaster and stone, impression materials, synthetic resins, metals, and cements. In the laboratory the student will manipulate those dental materials and recognize the effects of proper and improper techniques. Emphasis will be placed on dental assisting techniques for both operator and laboratory in the generalist and specialist type of practices. Lecture three hours. Laboratory three hours. Prerequisite: 209, GEA 106.

208-4 Clinical Dental Hygiene. The student will continue to apply information and skills learned in 137 on selected patients with varying oral hygiene needs. New information, procedures, and skills will be introduced during the course and incorporated into the clinical procedures. Laboratory eight hours. Prerequisite: 126, 133, 137.

209-3 Dental Hygiene Clinic. The student will perform professional services of a hygienist on designated clinical patients and is expected to demonstrate improvement of skills covered in 137 a, b. Additional skill incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended or home care education, auxiliary polishing devices, caries etiology tests, and nutritional counseling. Laboratory 12 hours, eight weeks. Prerequisite: 208.

211-2 (1, 1) Seminar. (a) The course presents to the student procedures and techniques that will be incorporated into concurrent clinic courses including advanced instrumentation and clinical problem solving. Emphasis is placed on patient management and advanced emergency techniques. (b) The course continues to provide correlation between didactic material and clinical application. Emphasis is placed on development of plaque control programs. Lecture two hours. Prerequisite: 137, 147.

217-2 Dental Nutrition. The biologic functions of essential nutrients are studied in their relation to growth and development of dental and oral tissues. Nutrition in health and disease is considered in detail; food sources of essential nutrients are identified. Knowledge gained is applied to the nutritional management and prevention of dental health problems in clinical practice through dietary counseling. Lecture four hours, eight weeks. Prerequisite: GEA 106, Allied Health Careers Specialties 141.

218-4 (2, 2) Dental Radiology. (a) The student will learn the techniques of exposing, processing, and mounting bitewing and periapical dental x-ray surveys, and will learn how x-rays are produced, hazards and precautions in using x-ray equipment, and the chemical composition and action of processing solutions on x-ray film. In the laboratory, the student will receive individual assistance in learning the techniques of exposing and processing films. (Lecture three hours. Eight weeks.) Prerequisite: 126, 137, GEA 106. (b) The student will learn special dental survey techniques including paralleling, occlusal, and special views, and will identify anatomical landmarks and recognize appearance of pathological conditions as viewed on dental x-rays. In the laboratory the student will receive assistance in learning special survey techniques. Lecture one hour. Laboratory two hours. Must be taken in a, b sequence. Prerequisite: 218a.

226-2 Anatomy of the Head and Neck. The student will study the detailed anatomic structure including skull, muscles, nerves, and blood supply. This course will provide concepts for understanding of anatomic structures of the head and neck and their functional relationships. Lecture two hours. Prerequisite: 126.

238-2 Oral Pathology. Special attention will be placed on pathological conditions of the oral cavity including dental caries, periodontal disorders, and lesions of the hard and soft tissues. The student will apply this knowledge by giving intra and extra oral examinations on selected patients and recording the findings. Lecture two hours. Prerequisite: 138, 226.

240-2 Dental Pharmacology and Anesthesia. The student will recognize the various types of drugs, their actions and effects on tissues of the body. Special emphasis will be placed on those drugs most commonly prescribed by the dentist. The student will study the anesthetics most commonly used in a dental office and the techniques of administering them. Lecture two hours. Prerequisite: GEA 106, Allied Health Careers Specialties 141, Microbiology 201.

241-2 Periodontology. The student will be introduced to the specialty of periodontics, including a review of the topics of classification, etiology, and the treatment of periodontal disease. Clinically, the student will perform a complete examination, scaling and root planning for the periodontal patient as presented in theory in this course. Consideration will also be given to special adaptations and recommendations of oral physiotherapy for the periodontal patient. Prerequisite: 126, 209, 217, 218b, Microbiology 201.

248-2 Dental Public Health and Community Dentistry. The student is introduced to the general principles of public health and community dentistry including hierarchy and history of the public health system; dental needs, supply and demand; purchase of dental care; and general principles of research in public health. An overview of types of community dental health programs are studied, with emphasis on the role of the dental hygienist in the community. Lecture two hours. Prerequisite: 147, 208, 209.

310-12 (6, 6) Clinical Dental Hygiene and Radiology. (a) The student continues clinical experience and is expected to show improvement in skills and abilities. Additional procedures include application of stannous fluoride, patient control programs, complete charting of the oral cavity, care of dental prosthesis, use of ultrasonic cleaning devices, measurement of periodontal pockets, and maintenance of dental equipment. Additional clinical experience is provided in the Model Cit-

ies clinic. Students will continue to take dental radiographs on clinical patients as a part of the required clinical experience. Laboratory twelve hours. Prerequisite: 209, 217, 218b, Microbiology 201. (b) The student will continue to perform the professional services of a hygienist on designated clinical patients and will be expected to demonstrate improvement of skills covered in 137 and 209. Those skills incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended home care education, auxiliary polishing devices, caries etiology tests, and nutritional clinical experience. Laboratory twelve hours. Prerequisite: 209, 310a, concurrent enrollment in 311b.

311-2 (1, 1) Senior Seminar. (a) The course presents to the student advanced clinical techniques and provides an opportunity for clinical problem solving. Emphasis in this phase of the course is placed on development of recall systems treating patients with special needs and the use of case presentations. Prerequisite: 211. (b) The course focuses on advanced clinical techniques and application. Clinical problem solving is practiced in conjunction with case presentation of actual clinic cases. Emphasis is placed on treatment of patients with special needs, hazards within the dental office, and skills needed for locating employment. Lecture two hours. Prerequisite: 211.

315-2 Ethics, Jurisprudence, and Office Management. The student will be able to identify the rules of conduct and behavior appropriate for dental professionals. Professional ethics and legal responsibilities will be distinguished as two separate topics. Evaluation processes will be worked through as in role playing to help students assess the appropriate steps to make professional decisions. Office management will be explored as an alternative career responsibility as well as conventional office procedures. Lecture two hours. Prerequisite: 208, 209, 310a.

348-2 Practicum in Dental Public Health and Community Dentistry. The student will continue to study the principles of dental public health and community dentistry. Types of dental health education programs are studied with emphasis on special population groups. Program planning, implementation, and evaluation are discussed in detail. The student will develop and present dental health education programs according to these principles. Lecture one hour, laboratory two hours. Prerequisite: 248.

388-2 Career Options in Dental Health. The course presents an overview of the various career options available in the field of dentistry. Advanced dental hygiene clinical practice, education, marketing, nursing home and other long term resident facilities are possible career options to be examined. The student will select and participate in career options of interest. The experiences will correlate to advanced dental hygiene education and will be designed to meet the needs of the individual student and the selected career option. Two hours lecture. Prerequisite: the student must have completed one semester of the dental hygiene associate degree sequence or have consent of the instructor.

414-3 Oral Health Management of Special Populations. Presents a comprehensive approach to the oral care of special needs patients and populations. Student will be introduced to a variety of settings in which dental care and oral health education may be provided. Provides opportunity to plan and implement programs and treatment. Not for graduate credit.

440-3 Interpretation and Review of Dental Literature. The student is introduced to general principles of research theory, research design, and basic statistics. Library sources are utilized to access dental related research reports. Critical review and interpretation of dental literature is emphasized. Lecture three hours. Not for graduate credit. Prerequisite: 238, 311a and b, or consent of instructor.

Dental Technology (Program, Major, Courses)

The dental technology program prepares the student to be a competent dental technician in the commercial laboratory, an educational institution, a dental manufacturing company, or the private dental office. To implement the goal, the prospective student must satisfactorily meet the requirements of courses in both the dental technology area and in the science, business, and humanities area.

Persons interested in careers in dental technology should have a sincere interest in working with their hands and find satisfaction in their creative work.

Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Additional application information is required other than that required for admission to the University.

The program is served by an advisory committee made up of practicing dentists, dental laboratory owners, dental technicians, dental sales representatives, and a second year dental technology student.

Graduates of the two-year dental technology program find that career opportunities are excellent. The trained dental technician not only has a wide choice of

geographic location for the pursuit of a career, but can also choose working conditions. Graduates are employed by commercial dental laboratories, dental schools, dental supply companies, private dental offices, or are self-employed in their own dental laboratories.

The student should expect to spend about \$850 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over the two-year period.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Dental Technology

GED 101, 152	6
GEA 101, 106	6
Technical Careers 120	3
Computer Information Processing 229	3
Dental Technology 102, 103a,b, 104a,b, 110, 113a,b, 128, 143, 202, 204a,b, 205, 206a,b, 210	61
Total	79

Courses

- 102-4.5 Tooth Anatomy.** The student will be able to write definitions of the nomenclature of teeth; draw five different peripheral views of maxillary and mandibular teeth; carve maxillary and mandibular teeth in plaster, three times natural size and in wax, natural size; wax maxillary and mandibular teeth on dentoform models. Lecture three hours. Laboratory 17 hours. Five weeks.
- 103A-4.5 Complete Dentures I.** The student will be able to write the steps of denture construction; identify and use lab stone, lab plaster and acrylic resins; construct edentulous casts, custom trays, base plates, occlusal rims, mount casts on non-adjustable articulators; and set up, contour, invest, and process and finish a complete denture. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.
- 103B-4.5 Complete Dentures II.** The student will be able to describe the theory inherent in all phases of full denture construction; bead and box an impression, set up anatomical, semi-anatomical, and non-anatomical teeth on non-adjustable and semi-adjustable articulators; select and set up teeth for different classes of arch forms; contour, flask, process, and finish complete dentures; reline, rebase, and repair full dentures; set up and process immediate denture and surgical tray. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103A.
- 104A-4.5 Removable Partial Dentures I.** The student will be able to write the basic steps of partial denture construction, identify and use impression material, gypsum products, surveyors, dental waxes, clasp designs, and partial denture alloys; mount master casts, survey, design, and cast a framework. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.
- 104B-4.5 Removable Partial Dentures II.** The student will be able to describe and do the planning, designing, and surveying of partial dentures; construct refractory casts, wax, invest, and finish several partial denture frameworks; articulate, set up denture teeth on partial frameworks, wax, invest, process, and finish acrylic bases; and repair broken frameworks. Lecture three hours. Laboratory 17 hours. Prerequisite: 104A.
- 110-4 Dental Occlusion.** The student will be able to write and identify the basic anatomy of the oral facial structure, and the theory inherent to occlusion. The theory will include the physiology of occlusion, the determinants of occlusion, and popular occlusion theories or techniques. The laboratory aspect will include building wax occlusions such as cusp/marginal ridge and cusp/fossa occlusal contacts, including working of natural dentition. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103B, 104B.
- 113A-2 Science of Dental Materials.** The student will be able to: identify orally, as well as written, the uses and composition of dental gypsum products, namely, plaster, stones, and investments, impression materials, dental resins, dental cements, polishing agents, abrasives, and dental waxes. Lecture two hours.
- 113B-2 Science of Dental Materials.** The student will be able to identify orally, as well as written, the physical and mechanical properties of metals and alloys, namely, dental golds, chrome cobalt alloys, and nickel cobalt alloys; the control of their physical properties, namely, strain hardening, alloying and heat treatment, the chemistry of tarnish and corrosion, gypsum investments for inlay procedures, casting and soldering techniques, and dental porcelains. Lecture two hours.
- 128-1 Oral Anatomy.** The student will be able to identify the anatomical features of the head

and oral cavity; identify the blood and nerve supply to the oral cavity and area; be able to list the muscles of mastication, and know the origin and insertion of each muscle; identify the anatomical parts of the maxilla and mandible; differentiate the movements of the mandible; and be able to identify the temporomandibular articulations. Lecture one hour.

143-1 Orientation to Dental Technology. The student will be able to identify pertinent dates and contributions made by people in the history of dentistry and the dental laboratory industry; identify specialties of dentistry and dental technology; identify organizations affiliated with the dental laboratory industry, identify ethics and laws regulating the dental profession, identify laboratory safety procedures, equipment maintenance and areas of possible cross contamination in the dental laboratory, and identify current issues of dentistry.

202-4.5 Orthodontics and Pedodontics. The student will be able to pour and trim orthodontic models, fabricate a maxillary Hawley, mandibular Hawley, holding arch, space maintainer, arch expander, tongue thrust and thumb habit appliances, occlusal palatal splint, bite planes, operate welding machine, orthodontic model trimmer, orthodontic blowpipe, write the gauges of wire that are used for the orthodontic appliances, identify the functional appliances and their clinical applications, and write the theory associated with the use of the appliance. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 110.

204A-4.5 Crown and Bridge I. The student will be able to write definitions of the nomenclature for crown and bridge I prosthetics; communicate orally and in writing the theory necessary for successful completion of the laboratory projects; construct working models, full cast crowns, inlays and veneer crowns. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

204B-4.5 Crown and Bridge II. The student will be able to write definitions of the nomenclature for crown and bridge II prosthetics; communicate orally and in writing the theory necessary for completion of the laboratory projects; construct working models, multiple unit bridgework, broken stress bridgework, crown under an existing partial denture, opposing crowns, and soldering procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 204B.

205-1 Dental Laboratory Management. The student will be able to identify how the following areas of management relate to the dental laboratory technician and the dental laboratory industry: principles and practices of management, marketing management, financial management, human resource management, and production management.

206A-4.5 Dental Ceramics I. The student will be able to construct porcelain jackets and porcelain-to-ceramic alloy restorations. Included will be cast preparation, waxing for porcelain bonded to ceramic alloy, casting, finishing, and porcelain firing techniques. Related theoretical concepts will be presented. The correct use and function of finishing and casting equipment and porcelain furnaces will be included. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

206B-4.5 Dental Ceramics II. The student will be able to construct porcelain bonded to ceramic alloy restorations. Included will be veneer and full coverage porcelain restorations and bridges using modern methods and techniques. Fabrication of porcelain laminates will be included. Also, the theory involved in conventional and new techniques for porcelain-to-metal restorations will be included as well as color control, and staining procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 206A.

210-4.5 Applied Prosthodontics. The student will be able to complete removable prosthodontic cases per directions of the dentist's prescription. Emphasis is on fabricating removable dental prosthesis on practical laboratory models. Laboratory 20 hours. Five weeks. Prerequisite: all 100 and 200 level dental technology courses.

Design

(SEE ART AND DESIGN)

Early Childhood

(SEE CURRICULUM AND INSTRUCTION)

Earth Science (Minor)

This course of study is designed for the student with an interest in the interdependent dynamic processes that take place on and near the earth's surface. At present the program is structured to complement a major in another discipline. This work

may be taken through the College of Liberal Arts, the College of Science, or the College of Education.

A minor in earth science consists of a core program of 14-15 hours and 9 to 10 hours of electives, as follows:

Core program	14-15
GEA 110, GEA 330 or Geography 331 and Geography 302	
Plant and Soil Science 446 or GEA 312	
Geology 221	
Electives.....	9-10
Appropriate substitutions may be made with the approval of the adviser.	
GEA 240	
Geography 310, 424, 432, 438	
Geology 310, 425	
Plant and Soil Science 240	

Economics (Department, Major, Courses)

The study of economics provides a useful means of analyzing the behavior of consumers, businesses, and government so that the student can better understand many of the problems facing contemporary society. Majoring in economics gives the student an analytical ability and flexibility that is attractive to a wide range of employers in both business and government. Economics is also an excellent major for students who are considering graduate school in law, business, or any of the social sciences.

The economics major in the College of Liberal Arts provides a flexible program with 26 to 33 hours of electives. This flexibility allows the student to follow a program oriented toward a wide range of careers in government and business or to prepare for graduate study in any of several areas.

Economic courses at the 300 level generally require only a limited background in introductory economics, while many economics courses at the 400 level require Economics 340 (440) and 341 (441) as prerequisites. Students considering graduate study in economics should also plan to take Economics 340 and 341 as early in their college careers as possible and should choose several courses at the 400 level to complete their major requirements. A student considering graduate study in economics should plan to take Mathematics 250 and Economics 465.

For transfer students, equivalent economics courses will be accepted from other institutions. However, to complete a major in economics, a student must earn credit in no fewer than five economics courses taken at Southern Illinois University at Carbondale. To complete a minor in economics, a student must earn credit in no fewer than three economics courses taken at Southern Illinois University at Carbondale.

Students are urged to discuss their major programs with the director of undergraduate studies or with any other professor in the Department of Economics; the department also has a director of career information and placement available for consultation.

Courses where a Pass/Fail grade is earned will not be counted as fulfilling the requirements for a major in economics without the written consent of the director of undergraduate studies.

Bachelor of Arts Degree, College of Liberal Arts

General Education Requirements.....	46
College of Liberal Arts Academic Requirements (See Chapter 3.)	(4) + 8-14

<i>Requirements for Major in Economics</i>	34-35
One course from the following all of which are approved substitutes for GED 107: Mathematics 117, 140, 150. The student will automatically satisfy a portion of the General Education Area D requirements with any one of these courses. Three hours are already included in total hours shown for General Education Requirements	(3) + 1-2
Economics 214, 215, 308, 340, 341, 408	18
Any five remaining economics courses except 301	15
<i>Electives</i>	25-32
<i>Total</i>	120

Honors Program

Students who are economics majors and working toward a Bachelor of Arts degree in the College of Liberal Arts may choose to enter the Honors Program if they have a minimum cumulative grade point average of 3.0 in all prior courses in economics.

As part of the ten economics courses required for a major, students in the honors program will be required to take 443 and any two other 400-level economics courses, except 408, 425, 440, 441, 471, and 479.

In order to be granted departmental honors, a student must have attained at graduation a minimum cumulative grade point average of 3.0 in economics courses taken.

Minor

For students majoring in other departments, a minor in economics is useful for employment in business or government and for graduate work in any of the social sciences, law, or business. The minor requires 15 hours of work in economics including Economics 214 and 215, but excluding Economics 301. A minimum grade point average of 2.0 must be achieved in the 15 hours of economics courses counted toward the minor. Students are urged to discuss their minor program with an economics adviser in order to assist students in designing coherent programs to meet their individual needs.

Courses

208-3 Business Data Analysis. (Same as Management 208.) Uses of business data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.

214-3 Introduction to Macroeconomics. Determination of income, employment, output and price levels in the national economy; government taxation, expenditure, and monetary policies to solve problems such as inflation and unemployment.

215-3 Introduction to Microeconomics. Study of businesses, consumers, and the government and their effects on prices, output and income distribution. Current economic problems will be used as illustrative examples.

300-3 to 9 Contemporary Economic Problems. A study of one or more contemporary economic problems. Problems chosen vary from semester to semester and the topic will be announced in advance. Prerequisite: 214, 215 or GEB 211 or consent of instructor.

301-1 to 6 Economic Readings. Readings in books and periodicals in a defined field, under direction of one or more faculty members. Periodic written and oral reports. Prerequisite: consent of instructor and department chairperson.

303-3 Poverty and the Economy. Poverty as a study of income inequality. Economic determinants of income inequality are isolated and related to current policy proposals.

304-3 Economics of the Welfare State. Analysis of programs and proposals attacking poverty, insecurity, inequality of opportunity, and maldistribution of income. Analyzes such programs as social security, unemployment compensation, medical care, income maintenance, public assistance, housing, and job creation. Economic foundations and consequences are linked with social and political problems.

308-3 Economic and Business Statistics. Survey of the foundations and applications of the principal statistical methods used in economic and business decision making. Included are probability theory, probability distributions, and testing hypothesis about, and estimation of, the important types of population parameters. Prerequisite: Mathematics 117 or 140 or equivalent.

310-3 Labor Problems. A comprehensive overview of the relation of labor to the United States economy. Included are the history of labor in the United States; analysis of institutions affecting labor; the theory of wage and employment determination; as well as analyses of unions and collective bargaining, discrimination, unemployment, and the distribution of income. Prerequisite: 215 or consent of instructor.

312-3 Collective Bargaining and Dispute Settlement. An analysis of the economic social effects of collective bargaining with an examination of its legal framework in the private and public sectors. Special attention to issues discussed in bargaining and to procedures for settling disputes. Readings and cases. Prerequisite: 310 or consent of instructor.

315-3 Money and Banking I. Study of the operation of the money and banking system in the United States. Stresses Federal Reserve control of the money supply and credit conditions to combat inflation and unemployment. Monetary arrangements and problems among nations are also considered. Prerequisite: 214 or consent of instructor.

318-3 Economic History of Europe. The economic growth and development of the European economies from the middle ages to the common market. Topics include the rise of the market system, the development of capitalism and the systematic growth of European economic integration. Prerequisite: 214 or GEB 211 or consent of instructor.

320-3 Economic History of the United States. The dynamic process of American economic growth and development from its colonial beginnings to its status as world economic power. Particular emphasis is given to the changing role of the United States in the developing world economy and the contribution of changing economic institutions to the character and pace of American economic growth. Prerequisite: 214 or consent of instructor.

322-3 Introduction to Economic Development. An analysis of the preconditions, processes, and problems involved in economic development. Both the theory and policy relevant to development, with special emphasis on the developing or emerging economies, are stressed. Prerequisite: 214 and 215 or consent of instructor.

323-2 Operation of Public Utilities. The study of public utilities regulation, electrical utility, load factors, rates fixed, and operating costs, power plant economics, and distribution policy. Prerequisite: GEB 211 or consent of instructor.

329-3 Introduction to International Economics. Introduction to the principles of international economics. Stresses the relationship between the balance of payments and the United States economy, the determinants of deficits and surpluses, and policy options to correct an imbalance. Prerequisite: 214 and 215 or consent of instructor.

330-3 Public Finance. Effects of government spending and taxing activities on the rest of the economy. Analysis of government debt, the federal budgetary process, and various taxes used in the United States. Prerequisite: 215 or consent of instructor.

333-3 Economics of the Environment. Factors which lead to physical and human deterioration in a market economy. Consideration of solutions to such problems as urban decay, overpopulation, and pollution. Prerequisite: 214, 215 or consent of instructor.

334-3 Health Economics. Factors underlying the demand for and supply of health and medical services. Included are the market, voluntary nonprofit, and governmental sectors of the industry. Special topics are the regional coordination of hospital facilities and services, the consumer price index and the measurement and costs of control programs.

340-3 Intermediate Microeconomics. A survey of theories of household, firm, and government economic behavior in the determination of competitive and non-competitive market prices. Emphasis is on understanding the United States economic system and on evaluating existing and proposed government microeconomic policies designed to improve the system. Not open to students who have had Economics 440. Prerequisite: 215 or consent of instructor.

341-3 Intermediate Macroeconomics. The determinants of fluctuations in aggregate economic activity, unemployment and inflation. An analysis of the behavior of consumption and investment, the impact of government monetary and fiscal policies, and factors affecting the rate of economic growth. Not open to students who have had Economics 441. Prerequisite: 214 or consent of instructor.

361-3 Regional and Urban Economics. A survey of regional and urban economic growth and the associated problems, including disparities among regions in income and employment. Examination of governmental policies aimed at reducing or eliminating such problems as depressed areas and urban blight. Prerequisite: 214, or 215, or consent of instructor.

374-3 Industrial Organization. A survey of economic theories and empirical studies on the nature and consequences of business rivalry in imperfectly competitive markets. Includes such topics as oligopoly, economics of scale, natural monopoly, introductory game theory, advertising, imperfect information, spatial competition, patents, and innovation. Prerequisite: 215.

308-3 Economics and Business Statistics II. A continuation of 308 which includes the construction, interpretation, and use of economic data. Topics include correlation, regression, deci-

sionmaking, index numbers, time series analysis, forecasting, and other statistical techniques used in analyzing economic and business data. This course will not count as graduate credit for economics majors. Prerequisite: 308 or equivalent.

416-3 Money and Banking II. An examination of the principle institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315, or 340, or 341, or consent of instructor.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment, and agrarian reform. Prerequisite: 322, or 340, or 341, or consent of instructor.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340, or 341, or consent of instructor.

425-4 Economics in Geography and Planning. (Same as Geography 422.) Concepts, symbols, language, theory, elementary mathematics of economics, and geography. Individual's preferences, production functions, the firm, markets optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: Geography 300 or consent of instructor.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor; and Mathematics 117, or 140, or 150, or consent of instructor.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330 or 340 or 341 or consent of instructor.

436-3 Government and Labor. Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: GEB 114 and 211 or equivalents or consent of instructor.

440-3 Price, Output, and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 215 or consent of instructor.

441-3 Contemporary Macroeconomic Theory. An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary, and income policies facing the United States government. Not open to students who have had 341. Prerequisite: 214 or consent of instructor.

443-3 Honors Seminar in Economics. Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economic majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341; and Mathematics 117, or 140, or 150, or consent of instructor.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 214 and 215; or GEB 211; or consent of instructor.

465-4 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and Mathematics 117 or 140, or consent of instructor.

467-3 Mathematical Statistics in Economics. Introduction to the use of statistical inference and distribution theory for measuring and testing economic theory. Prerequisite: Mathematics 117, 140, or 150 or consent of instructor.

471-3 Land Resource Economics. (See Agribusiness Economics 440.)

474-3 Antitrust and Regulation. The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 340 or 374.

479-3 Problems in Business and Economics. Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from

a policy standpoint. Prerequisite: 215; 308 or Administrative Sciences 208; Marketing 304; Mathematics 117, or 140, or 150 or consent of instructor.

481-3 Comparative Economic Systems. Capitalism, socialism, communism, and other forms of social organization are examined from a theoretical point of view. Economic and social theories from Adam Smith and Karl Marx to Milton Friedman and Paul Sweezy will be examined. Prerequisite: 340, or 440, or consent of instructor.

Education (Courses)

Courses

200-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

258-1 to 4 Credit for Work Experience. Credit granted for prior work experience relevant to the student's major program in which specific experiences with children or youth can be documented. Prerequisite: 201, 302, and consent of coordinator of professional education experiences.

259-1 to 60 Occupational Education Credit. Credit for educational experiences in training schools and institutes relevant to the particular departmental program. Credit hours to be determined by the associate dean for undergraduate studies.

300-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

310-1 Study of Teaching. Requirement in professional education sequence which cannot be waived. Introduction to major roles assumed by classroom teachers. Orientation to the Teacher Education Program and to the teaching profession. Participation and observation in public schools one-half day per week on Tuesdays, Wednesdays, or Thursdays. Placement in public school settings coordinated by College of Education Student Services. All sections of 310 require a restricted class card which may be obtained in Wham 135. 36 clock hours. Prerequisite: admission to the Teacher Education Program.

311-2 School and Society: Historical, Sociological, and Philosophical Perspectives. A requirement in the professional education sequence. Fulfills the minimum state certification requirement in the history and philosophy of education. Assists students in developing an understanding of the organization, function, and role of schools in the United States. Prerequisite: admission to the Teacher Education Program.

312-1 to 8 Field Observation and Participation. Allows the pre-service teacher education student to observe and participate in activities and experiences relating to the offerings of their major department. These experiences will be correlated with the offerings of the student's major department, and the experiences will be designed to meet the needs of the individual student. Enrollment in this course will be coordinated by the student's major department. Placement in public school settings will be coordinated by the College of Education Student Services. Prerequisite: 310, 311, 314a, 314b, and 315 or concurrent enrollment.

314A-2 Human Growth, Development, and Learning. A requirement in the professional education sequence. Deals with factors involved in the teaching-learning process including cognitive development, socio-personal characteristics, socio-cultural characteristics, motivation for learning, and principles of school learning. Prerequisite: GEB 202 or equivalent.

314B-1 Human Growth, Development, and Learning Laboratory. Thirty clock hours. Prerequisite: concurrent enrollment in 314A or consent of instructor.

315-3 Organizing and Directing Instruction. A requirement in the professional education sequence. Techniques and procedures applicable to effective teaching including planning for instruction, instructional design, and general teaching strategies. Teaching skills will be demonstrated by the students and evaluated by the instructor on a regular basis in the Teaching Skills Lab. Laboratory work also required in media production laboratory and microcomputer laboratory. Twelve clock hours. A \$10 laboratory fee is required. Prerequisite: 310 or concurrent enrollment, 314A,B, admission to the Teacher Education Program.

316-2 Classroom Management and Discipline. Includes techniques and procedures intended to provide teachers with skills for managing groups of students. Content includes management techniques, discipline models, child abuse identification and reporting, field observation, and data collection in the public schools. Public school assignments are one-half day per week on Tuesdays, Wednesdays, or Thursdays for ten weeks beginning with week five. Placement in public schools is coordinated by the College of Education Student Services. All sections require restricted class cards. Thirty clock hours. Prerequisite: 310, 314A, 314B, and admission to the Teacher Education Program.

317-2 Evaluation of Learning and Teaching. Covers construction and use of teacher-made tests of classroom learning; interpretation and use of standardized tests of achievement, aptitude, and scholastic ability; procedures for determining and reporting grades; and procedures for measuring and evaluating instructional effectiveness. Prerequisite: 310, 314A, 314B, 315, admission to the Teacher Education Program.

400-1 to 4 Student Teaching. A requirement in the undergraduate professional education sequence, 400 represents preliminary student teaching experiences necessary for certification by entitlement. For undergraduate students who are majoring in special education and are seeking entitlement to more than one teaching certification in the state of Illinois. Enrollment in this course must be arranged through the College of Education Student Services. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 312.

401-1 to 12 Student Teaching. A requirement in the undergraduate professional education sequence, 401 concludes the student teaching experience necessary for certification by entitlement. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program and acceptance for student teaching.

402-5 to 8 Student Teaching for Provisionally Certified Teachers. Offered for purposes of converting a provisional teaching certificate to a standard teaching certificate. The student teaching experience may be provided for in the position of employment under the supervision of a university supervisor. Enrollment in this course must be arranged with the coordinator of professional education experiences in the College of Education Student Services. Prerequisite: consent of instructor, provisional certificate, and teaching experience. For undergraduate credit only.

450-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

Educational Administration and Higher Education

(Department, Major [Graduate only], Courses)

The Department of Educational Administration and Higher Education does not offer an undergraduate major but offers courses for undergraduate credit over a broad range of subject matter.

Courses

402-1 to 3 Principles of Student Personnel Group Work. Acquaints the student with group work possibilities and functions in higher education.

420-3 Foundations for Differential Education of the Gifted. The formulation and analysis of foundational bases for differential education of the gifted; i.e., establishment of an epistemological, historical, philosophical, and sociological framework for this emerging subfield of education.

430-3 History of Education in the United States. An historical study of the problems of American education.

432-3 Education and Social Forces. A study of the social forces that shape educational policies in the United States.

454-3 Contrasting Philosophies of Education. An examination of current educational problems and trends in the light of contrasting philosophies of education.

455-3 Introduction to Adult and Continuing Education. Introduces the multifaceted areas of adult and continuing education in traditional and non-traditional settings by reviewing and studying philosophies, directions, program efforts, and activities associated with them.

475-3 Administration of Staff Development Programs in Adult and Continuing Education. Review and examination of the needs, problems, administrative requirement, and alternatives available for staff development in adult and continuing education. Emphasis will be placed on needs assessments, planning, and designing inservice or staff development programs to meet institutional needs and individual professional needs.

495 (3 to 9) (3, 3, 3) Workshop in Adult Education. The foci for these workshops are to provide quality educational experiences for students and practitioners in the field of adult and continuing education in three major areas: (a) current issues, (b) improvement of instruction and programs in adult education, and (c) evaluation in adult education.

Educational Psychology (Department, Major [Graduate only],

Courses)

The Department of Educational Psychology does not offer an undergraduate major but offers courses for undergraduate credit which serve as electives for students in other programs.

Courses

100-2 Decision Making for Career Development. Examination of factors relating to career de-

cision making. Emphasis on the continuous use of learned processes and information in vocational development. Supplementary group guidance and counseling sessions required. Charges may be assessed to cover the cost of administering and scoring occupational interest surveys to be given during the course. These charges should be less than \$10.

380-3 Educational Psychology. The basic factors involved in the teaching-learning process including student characteristics, motivation, learning, and teacher-student relationships. The course activities are intended to prepare the student with a basic foundation in educational psychology for the purpose of teaching.

380-1 to 4 Practicum in Instructional Roles. One semester hour of credit for every three modules selected. Application of educational psychology in a practical teacher-learner situation. Class members conduct actual instructional activities with individuals or groups of students. Field activities are required and the student may be required to purchase additional materials not to exceed \$20. Prerequisite: consent of instructor.

402-3 Basic Statistics. A master's level terminal statistics course. Emphasis on descriptive statistics and graphical representation of data. Includes a brief introduction to hypothesis testing procedure.

412-3 Human Behavior and Mental Health. A study of the principles of human needs, mechanisms of adjustment, and factors and conditions in life that tend to affect mental health. Prerequisite: junior or senior standing.

418-3 Psychology of the Classroom. Intended to develop interpersonal skills such as values clarification, empathy, and listening. Strategies for the resolution of conflicts and reasons for students demonstrating disruptive behavior will be discussed. Role-playing, group processes, concepts and activities in behavior modification, and activities related to concepts of discipline will be examined. Content should be suited to parents, teachers, and other professionals.

422-3 Introduction to Individual and Group Assessment. The student will be introduced to the basic testing process and the problems related to individual group assessment and will be expected to choose a project for study and investigation. The project must be related in some way to the role and function of the counselor in different settings. The various types of assessment instruments and the manner in which the data derived therefrom can be employed in consultation.

442-3 Introduction to Counseling. The following topics will be covered: purposes of counseling; counselor roles in various settings; approaches to counseling; counseling activities; and application of the above.

481-1 to 12 Seminar. Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of premarital, marital, divorce, family, and family crisis counseling. Counseling individuals singly, in family units, and in groups.

491-1 to 6 Special Research Problem—Individual Study. For majors. Formulating, investigating, and reporting on a problem in the area of guidance. Prerequisite: advanced standing and consent of department.

493-3 Counseling Skill Development. Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.

494A-3 School Counseling Practicum. A combined seminar, laboratory, and field experience representing the central focus of the program in school counseling. Enables the student to practice the role of the counselor under close supervision. Prerequisite: 537 and 3 additional hours from substantive course work in the counseling program.

494B-3 Counseling Practicum. Practice of counseling skills with different populations in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Prerequisite: 538 and 3 additional hours from substantive course work in the counseling program.

494C-3 Career Counseling Practicum. Supervised experience in handling career development experiences at elementary, secondary, or college levels. Application of theoretical models to program development is stressed, including presentation of relevant lessons, handling of group guidance activities, and conducting individual career development counseling sessions. Intern experience in public school or college settings equal to one day per week is required. Prerequisite: 542 and 3 additional hours from substantive course work in the guidance and counseling program.

494D-3 to 6 (3, 3) Practicum in School Psychology. Observation and participation in case conferences related to the development of psycho-educational assessment and planning, including teacher and parent consultation, field observations, and psychometric applications. Prerequisite: consent of instructor.

Electrical Engineering (Department, Major, Courses)

The Department of Electrical Engineering offers courses in the major areas of electrical and computer engineering. Students who choose the electrical engineering major prepare themselves for professional and technical employment or grad-

uate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electric power, computer, and microelectronic companies. Flexibility in this major allows students to choose among courses in applications and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics, and power systems.

The curriculum in electrical engineering is fully accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Bachelor of Science Degree, College of Engineering and Technology

<i>General Education Requirements</i>	31 ¹
GEA: Substitute basic science	
GEB: GEB 105, 301, and one of the following: GEB 108, 114, 202 or 211	9 ^{2,3}
GEC: Select one of the following: GEC 101, 102, or 208, plus GEC 122 and 345 or GEC 330 and 345	9 ^{2,3}
GED: GED 101, 102, 153 and substitute mathematics	9
GEE: 2 hours of health and 2 hours of physical education activity	4
<i>Requirements for Major in Electrical Engineering</i>	102
Basic Sciences	18
Physics 205a,b; 255a,b	8
Chemistry 222a,c	7
GEA: Choose from approved list ²	3
Mathematics	17
Mathematics 150, 250, 251, and 305	14
Approved mathematics elective	3
Engineering	67
General: Engineering 222, 361, 400	5
Engineering Sciences	33
Engineering 260a, 300, Electrical Engineering 225, 235 ⁴ , 336, 355, 375, 385. Select one from Engineering 260b or 312. Electrical Engineering 345 (3 hours will count toward the requirement), and 327 and 465 (1 hour for each of these courses will count toward the requirement).	
Engineering Design	19
Electrical Engineering 443 (4 hours will count toward the requirement). Electrical Engineering 327 and 465 (2 hours for each of these courses will count toward the requirement). Electrical Engineering 345 (1 hour will count toward the requirement) plus 10 hours of engineering design from the following courses. A maximum of 1 hour for each of these courses will count toward the requirement: Electrical Engineering 421, 427, 447, 448, 468, 477, 478, 479, and 486. A maximum of 2 hours for each of these courses will count toward the requirement:	

¹Courses required for the major will apply toward 15 hours of General Education making a total of 46 in that area.

²Engineering requirements for GEB and GEC are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the General Education requirements for engineering students.

⁴A grade of C or better must be earned in Electrical Engineering 235 before taking 336, 345, and 385.

Electrical Engineering 428, 456, 459, 488, and 489. A maximum of 3 hours for each of these courses will count toward the requirement: Electrical Engineering 424, 426, 446, 457, and 487.

Approved technical electives.....	10
Total	133

Courses

Safety glasses, a hand-held scientific calculator, and textbooks are required of all electrical engineering students.

225-3 Introduction to Digital Systems. Number systems. Boolean algebra. Combinatorial circuits; minimization. Sequential circuits. Logic devices. Introduction to switching algebra. Prerequisite: Engineering 222.

235-4 Electric Circuits I. Concepts and basic laws in analysis of AC and DC linear circuits. Mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Basic instrumentation. Lecture and laboratory. Prerequisite: Mathematics 250.

327-3 Sequential Circuit Design. Synthesis and optimization of synchronous and asynchronous sequential circuits, which involve multivibrators, registers, counters, logic gates, and memories. Use of medium-scale integrated circuits in sequential circuits. Computer basics. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 225 and 345.

336-3 Electric Circuits II. Three phase balanced circuits. Mutual inductance. Series and parallel resonance. Laplace transform and its applications. Transfer function. Two port network. Introduction to filter analysis and synthesis. Prerequisite: 235 and concurrent enrollment in Mathematics 305.

345-4 Electronics. Fundamental electronics and basic signal-processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 235 and concurrent enrollment in 336.

355-3 Signals and Systems. Concept of continuous and discrete signals and systems. Singularity functions. Differential and difference equations. Convolution. Fourier transform. Z transform. System transfer function. State variables. Stability. Prerequisite: 336.

375-3 Electromagnetic Fields I. Electric and magnetic fields using vector analysis. Evolution of Maxwell's equations through the laws of Coulomb, Gauss, Ampere, and Faraday. Concepts of energy and potential. Poisson and Laplace fields. Wave equation and plane waves. Prerequisite: Mathematics 305.

385-4 Electromechanical Energy Conversion. Principles of electromagnetic energy conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single phase and polyphase machines. Polyphase circuits. Lecture and laboratory. Prerequisite: 235 and concurrent enrollment in 336.

421-2 Digital Computers in Applied Physical Research. Computational techniques for matrix inversion, solution of linear equations, and characteristic roots and vectors. Least squares analysis, curve-fitting, and regression. Numerical quadrature. Solution of non-linear equations. Solution of regular differential equations and boundary-value problems. Generation of approximate solutions. Monte Carlo techniques. Engineering and other physical examples are used as the primary teaching vehicle. Prerequisite: Engineering 222 and Mathematics 305.

424-3 Design of Microprocessor-Based Systems. Microprocessor terminology. Design, construction, and programming of microprocessor-based systems complete with newest technology. Lecture and laboratory. Cost of parts for microprocessor-based system, approximately \$80. Prerequisite: 426, 427 or concurrent enrollment, or consent of instructor.

426-4 Microcomputer Systems. Composition and applications of microcomputer systems. Microprocessor programming relative to interfacing devices such as input/output ports, analog-to-digital converters, and digital-to-analog converters. Lecture and laboratory. Prerequisite: 225 and 345, Engineering 222 or consent of instructor.

427-3 Structure of Digital Computers. Introduction to structure and design of digital computers, central processing unit, arithmetic unit, memory organization including cache and virtual memory concepts, input and output systems, interrupts and Direct Memory Access, hardwired and microprogrammed control units. Future trends in computers. Prerequisite: 327.

428-3 Digital Hardware Design I. Fundamentals of digital hardware design. Systems with microcomputer as controller. Microcomputer buses and interfaces. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 426, 427 or 465 or consent of instructor.

443-4 Electrical Engineering Design. Students select suitable project, define and design subsystems, define requirements of interfaces among subsystems, integrate subsystems into final de-

sign, and document, price, and schedule project. Lecture and laboratory. Prerequisite: senior standing in electrical engineering.

446-4 Electronic Circuit Design. Design techniques for a wide range of electronic circuits. Device and circuit modeling. Computer aided circuit design. Consideration of audio, video, and tuned amplifiers; feedback; oscillators; digital circuits. Design project. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 355 or concurrent enrollment 345.

447-4 Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices are used to illustrate performance characteristics and the relation between device design parameters and terminal properties. Lecture and laboratory. Prerequisite: 345, Engineering 222.

448-4 Laser Electronics. A study of the excitation and lasing process in various liquid, solid and gas lasers. Techniques and principles utilized in the design of a laser system are also covered. Three hours lecture and two hours of laboratory per week. Prerequisite: 345.

456-3 Control Theory. Fundamentals and techniques for analysis and design of systems with feedback. Signal flow graphs. S-plane analysis. Frequency-domain analysis. Root locus. Stability conditions. Compensation techniques. Prerequisite: 355.

457-3 Systems Theory. In-depth study of system concepts such as interaction, anticipation, feedback, feedforward, stability, and memory. Methods which maintain flexibility and generality in dealing with all types of engineering systems. Prerequisite: Mathematics 305 or consent of instructor.

458-3 Communications Theory. Basic information theory. Fourier series and transform. Sampling theory. Amplitude modulation, frequency modulation, and pulse modulation. Signal-to-noise ratio. Prerequisite: 355.

459-3 Digital Control. Analysis and design of discrete-data and digital control systems using tools like Z-transforms, state variable equations, stability criteria time-domain response, and frequency-domain response. Prerequisite: 225 and 355.

462-3 Biomedical Instrumentation and Measurements. (Same as Physiology 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

465-3 Instrumentation. Measurement systems for research and manufacturing. Instrument characteristics. Digital and analog techniques and devices in instrumentation. Transducers. Signal conditioners. Displays. Control devices. Statistics of measurement. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 345.

468-3 Digital Signal Processing. Discrete Z-transforms. Discrete Fourier Transform. Fast Fourier Transform algorithms. Digital filter design. Applications in speech and image processing. Prerequisite: 355.

477-3 Electromagnetic Waves. Transmission lines, Maxwell equations, wave equations, boundary conditions, plane wave phenomena and theories, guided wave phenomena and theories, rectangular wave guides, surface waves, resonating structures, radiating structures. Prerequisite: 375 or consent of instructor.

478-3 Digital Communication. Application of probability theory and random processes in digital communication systems. Behavior of digital communication systems in noise. Performance comparisons of digital modulation systems. Optimum signal detection. Entropy and channel coding. Prerequisite: 355.

479-3 Electromagnetic and Optical Measurements. Fundamental measurement techniques in electromagnetic wave systems and optical systems. Accurate measurements of microwave properties of materials, laser transmission reception, modulations, and holographs. One hour lecture and six hours laboratory per week. Prerequisite: 477 or consent of instructor.

483-3 Power Electronics. Power semiconductor devices. Power converters, reactive power control devices. Application of power electronics to control of electrical machines. Prerequisite: 345, 385.

484-3 Computer Aided Circuit Design. Network Topology. Nodal linear network analysis. Nodal non-linear network analysis. Standard form state equations of linear networks. Numerical solution of state equations. Sensitivity calculations. Prerequisite: 336.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy converters. Energy storage devices. Cost of generating power. Prerequisite: 385 or consent of instructor.

487-4 Power Systems Analysis. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Per-unit quantities. Network analysis applied to power systems. Load flow. Lecture and laboratory. Prerequisite: 385.

488-3 Power Systems Engineering. Economic operation of power systems; symmetrical components; short circuit analysis; stability. Prerequisite: 487.

489-3 Electric Power Distribution. Electric power distribution requirements and their accomplishment, including determination of load characteristics, design of primary and secondary distribution networks, metering, voltage regulation, and protection. Prerequisite: 487.

492-1 to 3 Special Studies in Electrical Engineering. Individual projects and problems selected by student or instructor. Open to seniors only. Prerequisite: consent of instructor.

493-1 to 3 Special Topics in Electrical Engineering. Lectures on topics of special interest to students in various areas of electrical engineering. Designed to offer and test new and experimental courses in electrical engineering. Prerequisite: consent of instructor.

Electronics Management (Major, Courses)

This major is designed to provide advanced course work in the areas of electronics technology, subordinate supervision and technical area management. It is designed for individuals with Associate in Applied Science degrees in Electronics Technology or for those individuals with experience in industry or military related electronics programs or schools. The major can build upon a variety of educational or practical experiences such as bio-medical instrumentation, opto-electronics, various categories of electronic communications, computer construction and other specialties.

Opportunities for employment exist in a variety of industries across the nation. Communications (radio, telephone, television) and technical communications are just a few areas of employment for graduates of this program.

Bachelor of Science Degree, College of Technical Careers

<i>General Education Requirements</i>	46
<i>Requirements for Major in Electronics Management</i>	48
Core Requirements: Advanced Technical Studies 364, 416, and two of the following 332, 383, 421	12
Fifteen hours selected from Electronics Technology 301, 302, 303, 304, 305, 311, 312, 313, 314, Electronics Management 340, 341, 342, 343, or Advanced Technical Studies 383, 412.	15
Twelve hours of internship, independent study, or approved equivalent	12
Nine hours of electronics management electives approved by the adviser	9
<i>Approved Career Electives</i>	26
<i>Total</i>	120

Courses

- 340-3 Application of Solid State Devices.** A technical management approach to the practical application of solid state devices in business and industry. Characteristics of these devices will be reviewed to promote understanding of the selection and application process. Special emphasis will be given to the application of linear integrated circuits as well as the operational amplifier and its application instrumentation. Prerequisite: consent of department.
- 341-3 Digital Circuit Applications.** Applications of digital electronic devices and circuits in business and industry. Geared to the needs of the technical manager, this course builds upon the student's knowledge of basic electronics theory. Basic principles of subsystems are reviewed to assist the student in understanding their selection and application to business and industrial settings. Prerequisite: 340 or consent of department.
- 342-3 Microcomputer Applications.** The microcomputer approached from the standpoint of the technical manager. The primary emphasis of this course is on the practical uses of microcomputer systems in business and industry. Basic characteristics and principles of microcomputers will be reviewed to provide an understanding of applications in specific business and industrial settings. Prerequisite: 341 or consent of department.
- 343-3 Microcomputer Application Laboratory.** Laboratory experiences selected to reinforce microcomputer characteristics and practical applications in business and industry. Students sample applications of microcomputer systems on an operational microprocessor. Prerequisite: previous or concurrent enrollment in 342, may be independent study. Mandatory Pass/Fail.

Electronics Technology (Program, Major, Courses)

The goal of the electronics technology program is to educate electronics technolo-

gists capable of taking their places in industry in both indirect and direct support to the electronics engineer. While theory is taught on an indepth level, emphasis is also placed on application of electronics theory. More than an hour each day is spent descriptively and mathematically presenting the general theory principles of electronics. This theory is then applied in a two-hour laboratory each day to design, breadboard, and evaluate circuitry to not only reinforce the theory, but also give the student experience in the use of test equipment, troubleshooting techniques, and the use of data manuals to determine specifications of circuits and components. This is an important approach to studies for the technologist whether he or she enters the field as part of a research and development team, computer repair and servicing, communications servicing, industrial servicing or many other areas of the field. During the first year of the program, most instruction is directed toward basic principles of electricity and electronics. This instruction is followed by a semester that concentrates on instrumentation and control systems and a semester that concentrates on digital and microprocessor systems. The program offers advance courses in biomedical electronics, fiber optical electronics, microcomputers, communication electronics and computer repair.

The persons who make the best electronics technicians are those who are interested in physics and mathematics, who have a desire to learn how complex equipment functions and are careful of small details, and who enjoy seeking out and solving problems.

The purchase of a set of specified hand tools, costing approximately \$150, is mandatory for students enrolled in the program. A list of the specific hand tools and supplies required will be sent upon request.

An advisory committee drawn from among professionals active in the industry helps to assure that students get a course of study that will prepare them for existing and developing conditions in the field.

Opportunities exist throughout industry for technicians, and students are limited only by their own talent and motivation. Job pay is directly commensurate with the technician's ability, resourcefulness, and initiative.

Students who have an excellent background in AC-DC theory are especially suited for an accelerated program. Students who have extensive studies in electronics in high school vocational courses and at area vocational centers are encouraged to enter an accelerated program which shortens the time required to earn the associate degree at the College of Technical Careers. The electronics technology faculty has developed a formalized program of proficiency testing which allows these students to:

1. Gain credit in first semester courses through testing.
2. Take second semester major courses during the eight-week summer session.
3. Begin third semester, or sophomore, courses in the fall semester of what would normally be their freshman year at college.

Electronics Technology 301, 302, 303, 304, 305, 311, 312, 313, and 314 are post-associate courses. Students must have an Associate in Applied Science degree in electronics technology or equivalent to enroll in these courses. Additional electronics parts and supplies are required for these courses. The approximate cost of these parts and supplies is \$200 to \$250.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Electronics Technology

GED 101, 153	6
Technical Careers 105a,b, 107a,b, 102	10

Electronics Technology 101, 102, 111, 112, 121, 201, 202, 211,	
212, 221, 224, each with a grade of C or better	53
Computer Science 202 or Computer Information Processing 323	3
Total	72

Courses

100-3 Introduction to Electronics. A non-mathematical introduction to the world of electronics. The uses of electricity and control devices for its use. Laws and theories which govern electronics. Devices and circuits which make up today's electronic system. Current flow through the conductors and devices which make up electronic circuits. No mathematics prerequisite.

101-5 DC-AC Circuit Analysis. The laws and theory principles of DC-AC passive circuits are presented in a comprehensive manner using descriptive, mathematical, and verbal analytical approach. Prerequisite: concurrent enrollment in College of Technical Careers 105a,b and electronics technology major or consent of program supervisor.

102-5 Electronics Circuit Theory. The operation of active devices with their passive components are descriptively, verbally, and mathematically presented in circuits such as amplifiers, oscillators, op amps, and other IC systems. Prerequisite: 101 and electronics technology major or consent of program supervisor.

111-6 DC-AC Circuit Analysis Laboratory. Application of the theory studies in 101 on passive circuits is made under experimental conditions. Laboratory ten hours. Prerequisite: concurrent enrollment in 101.

112-6 Electronics Circuits Laboratory. Application of the theory studies in 102 on electronic circuits is made under experimental conditions. Laboratory ten hours. Prerequisite: 111, and concurrent enrollment in 102.

121-3 Electronic Devices. The focus is placed on electronic devices, their construction, operational characteristics, and application in a single functional block according to manufacturer specifications. Lecture three hours. Prerequisite: concurrent enrollment in 111.

201-5 Telemetry and Industrial Circuits Theory. The theory principles are covered on circuitry employed in the measurement, transmission, resolution, and development of data required for operation in industrial and commercial applications. Lecture five hours. Prerequisite: 102 and consent of instructor.

202-5 Digital Circuits Theory. Concepts of the circuits used to make up such systems as numeric controls, computers, and communications networks. Lecture five hours. Prerequisite: 102 and consent of instructor.

211-6 Telemetry and Industrial Circuits Laboratory. Application of the theory studied in 201. It develops skills in design, testing, and troubleshooting transducers, telemetry equipment, and industrial circuits. Laboratory ten hours. Prerequisite: concurrent enrollment in 201 or consent of instructor.

212-6 Digital Circuits Laboratory. The laboratory provides organized investigation of individual circuits and subsystems that are employed in a variety of major systems in industry and commerce. Laboratory ten hours. Prerequisite: 102 and consent of instructor.

221-3 Electronic Systems Analysis. Extends the basic analysis skills developed in the prerequisite course to the analysis of typical modern electronic systems and subsystems. Lecture three hours. Prerequisite: 102 or consent of instructor.

223-3 Federal Communications Commission Test Preparation. Programmed instruction designed to prepare a student for the test for the general FCC radio-telephone license. Individualized instruction three hours. Prerequisite: 102 and electronics technology major or consent of program supervisor.

224-3 Computer Systems Applications. Analysis and working knowledge of numbering systems, Boolean algebra, logic gates, pulse shaping circuits, and various timing circuits used in computers, microprocessors, and other digital systems. Prerequisite: 101 and 111 or consent of program coordinator.

301-5 Introduction to Electronic Biomedical Instrumentation. Designed to develop an understanding of the fundamentals of electronic circuits employed in biomedical instrumentation of the following purposes: cardiovascular measurements, patient care and monitoring, measurements in the respiratory system, measurement of physical variables, sensory measurements for the study of behavior, biotelemetry, instrumentation for the clinical laboratory, X-ray and radioisotope instrumentation, and particularly electrical safety for medical equipment. Lecture five hours. Prerequisite: consent of instructor and a minimum grade of 70 percent on an entrance examination covering fundamentals, digital and industrial electronics.

302-3 to 4 Optical Electronics. The student will be required to identify the basic principles of light physics as they relate to laser and fiber optic theory. Integration of electronic control, measuring, and sensing devices will be accomplished within an industrial and communication framework. A systems approach will be utilized involving laser, fiber optic, and electronic discrete and integrated components. Lecture three or four hours. Prerequisite: departmental evaluation.

303-5 Microcomputer Construction and Troubleshooting. The student will be able to construct a microprocessor based system, make it operational, and develop techniques used in software/hardware troubleshooting. Lecture five hours. Prerequisite: consent of instructor and a minimum grade of 70 percent on an entrance examination covering fundamentals, digital and industrial electronics.

304-4 Communication Systems. The non-calculus based theory of circuits used in modern AF Video, and RF communication systems; applicable to PA systems through satellite communications. Modulation, demodulation, multiplexing, and conversions of both digital and analog signals will be investigated. Receivers, transmitters, and interface devices will be studied. Lecture four hours. Prerequisite: minimum grade of 70 percent on an entrance examination covering fundamentals, digital and industrial electronics.

305-4 Microcomputer Maintenance. Designed to provide the theory and practice necessary for the student to be able to diagnose and repair and maintain some of the current mainstream personal computers and peripheral devices. Prerequisite: consent of instructor and a minimum grade of 70 percent on an entrance examination covering electronics fundamentals.

311-6 Electronics Biomedical Instrumentation Laboratory. The laboratory provides hands-on experience with the equipment currently available for use in biomedical instrumentation. The equipment is selected from major supplies and is utilized to teach interfacing and applications. The equipment will encompass sensors, transducers, amplifiers, oscillators, display and recording devices. Laboratory ten hours. Prerequisite: concurrent enrollment in 301.

312-2 Optical Electronics Laboratory. The student will perform selected experiments in electronics, lasers, fiber optics, and light physics. Emphasis will be placed on the integration of laser and fiber optic principles with electronics. Laboratory three hours. Prerequisite: concurrent enrollment in 302.

313-6 Microcomputer Construction and Troubleshooting Laboratory. This laboratory is designed to reinforce the concepts of microcomputer operation, troubleshooting, programming, and interfacing through actual practice. Ten hours laboratory. Prerequisite: concurrent enrollment in 303.

314-4 Communication Systems Laboratory. Designed to reinforce the concepts of modern AF, video, and RF communication systems. AM, FM, SSB, PCM, and complex modulation AF and video investigation in laboratory projects. Prerequisite: concurrent enrollment in 304.

319-1 to 15 Electronics Occupations Internship. Students will be assigned to a University approved program to engage in activities related to the electronics technology program and the student's career objectives. The student will perform duties as assigned by the work supervisor and internship coordinator. Reports and assignments are required. Prerequisite: consent of instructor. Mandatory Pass/Fail.

Elementary Education

(SEE CURRICULUM AND INSTRUCTION)

Engineering (Courses)

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of people.

The College of Engineering and Technology offers four-year Bachelor of Science degrees in Civil Engineering, Electrical Engineering, Mechanical Engineering and Mining Engineering. All of the above programs are fully accredited by the Accreditation Board for Engineering and Technology (ABET). For detailed information on the programs see the listing under the appropriate heading in this chapter.

Students enrolled in community colleges who plan to transfer to Southern Illinois University at Carbondale should take courses that provide backgrounds in mathematics, physical sciences, social sciences, and humanities. Introductory foreign language courses are not acceptable. They may transfer at any time, but there are advantages in having completed a baccalaureate-oriented associate-degree program. Community college students can complete specific Southern Illinois University at Carbondale course requirements which include 6 hours of

English composition and speech, 8 hours of university physics, 7 hours of chemistry, 11 to 17 hours of mathematics (including calculus and differential equations), 5 hours of statics and dynamics, and 13 to 15 hours of social sciences and humanities. All students including transfer students holding the associate degree in a baccalaureate-oriented program must have 16 hours of social sciences and humanities including a junior-level course taken at a senior institution. This junior-level course must provide a sequence in social science or humanities discipline. Calculus and analytical mechanics are prerequisites for most junior-level engineering courses.

Students with bachelor of science degrees in engineering can specialize further at the graduate level.

Courses

Safety glasses, an electronic calculator or a slide rule with log-log scales, and textbooks are required for all engineering students.

102-2 Computer-Aided Engineering Drawing. Manual sketching and computer aided engineering drawings techniques. Lettering; orthographics projections, isometric projection, oblique projections, auxilliary views, dimensioning, sectioning, working drawings.

222-2 Computational Methods for Engineers and Technologists. Introduces the student to the use of digital computers in the solution of technical problems that are specifically designed for the engineering and technology student. Problem analysis, flowcharting, coding, diagnostics, execution, and solution verification are discussed. Prerequisite: Mathematics 111.

260-5 (2, 3) Mechanics of Rigid Bodies. (a) Principles of statics; force systems; equilibrium of particles and rigid bodies; trusses, frames and machines, centroids; friction; moments of inertia of areas. Prerequisite: 102 and Mathematics 150. (b) Principles of dynamics; mass moment of inertia; kinematics and kinetics of particles and rigid bodies; vibrations. Prerequisite: 260a or equivalent.

300-3 Engineering Thermodynamics I. Study of the basic principles of thermodynamics. Engineering analysis of physical systems based on the first and second laws. Properties of pure substance (ideal gas behavior, non-ideal gas behavior, and equations of state.) Mixtures of ideal gases. Introduction to cycle analysis. Prerequisite: Chemistry 222a or equivalent and Physics 205a. Physics prerequisite waived with consent of instructor.

302-3 Engineering Heat Transfer. An introductory study of the rate mechanisms of thermal energy transport both in steady state and in transient conditions, with and without phase change. Prerequisite: 260a.

311-3 Mechanics of Deformable Bodies. Introduction to the mechanics of deformable bodies. Forces and deformations. Torsion. Stresses in beams. Deflections of beams. Statically indeterminate beams. Columns. Laboratory supply fee: \$3. Prerequisite: 260a.

312-3 Materials Science Fundamentals. Sub-microscopic structure of solids, including electronic states, atomic and molecular arrangement, structural imperfections and atomic diffusion, and their relationship to macroscopic properties; physical properties of semiconductors, dielectric and magnetic properties of materials; metallic, organic, and ceramic materials and their mechanical properties; composite materials. Laboratory supply fee, \$5. Prerequisite: Physics 205 and Mathematics 250.

313-3 Fluid Mechanics. A broad introduction to the concepts and principles of fluid statics, kinematics, and dynamics. The fundamental laws for fluid motion in the form of Euler's, Bernoulli's, impulse-momentum and work-energy equations. Dimensional analysis and dynamic similitude. Resistance to flow; deformation drag, surface drag, form drag. Introduction to compressible fluid flow. Laboratory supply fee, \$3. Prerequisite: 260b.

335-3 Electric Circuits. Foundation course in electric circuits. Basic laws and concepts of linear circuits. Analysis of AC and DC circuits by mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Prerequisite: Mathematics 250.

345-3 Electronics. Functional electronics and basic signal processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Use of basic instruments. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 335.

351-3 Numerical Methods in Engineering. Overview of numerical procedures such as root finding, curve fitting, integration, solutions of simultaneous equations, and solutions of ordinary differential equations. Emphasis will be on applications of these techniques to problems in engineering, mechanics, and civil and mechanical engineering. Prerequisite: 222, 311, 313.

361-2 Engineering Economics in Design. Procedures for evaluating the relative economic merits of engineering projects and designs. Use of these procedures permits comparing alternate engineering estimates, evaluate engineering effectiveness, and proceed toward decision making based on economic and engineering optimization. Professional engineering examinations include these course materials. Prerequisite: Mathematics 111 or equivalent.

385-3 Electromechanical Energy Conversion. Principles of electromechanical energy conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single-phase and polyphase machines. Polyphase circuits. Prerequisite: 335.

400-1 Engineering Professionalism and Ethics. The role of the engineer as a professional in society and in the corporate structure. Engineering registration. The basis and function of Engineering Codes of Ethics. Major ethical/philosophical value systems in our country. Ethics applied to specific engineering case studies. Not for graduate credit. Prerequisite: Senior standing in engineering.

455-3 Engineering Geology. (See Geology 455.)

Engineering Mechanics

(SEE GRADUATE CATALOG)

Engineering Technology (Major, Courses)

Engineering technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (formerly the Engineers' Council for Professional Development). These curricula are the civil engineering technology, electrical engineering technology, and mechanical engineering technology specializations. For each curriculum, a minimum of 30 hours in engineering technology courses must be taken in residence at Southern Illinois University at Carbondale.

Bachelor of Science Degree, College of Engineering and Technology

ENGINEERING TECHNOLOGY MAJOR – CIVIL ENGINEERING TECHNOLOGY SPECIALIZATION

The civil engineering technology specialization is primarily suited for those students interested in pursuing careers in the construction industry. However, the broad range of studies ensures a solid technical background in many areas of civil engineering technology. Graduates of the program are employed by architectural engineering firms, mining companies, state and local highway departments, and construction firms.

<i>General Education Requirements</i>	34 ¹
GEA: Biology and substitute basic science	3
GEB:	9
GEC:	9
GED: GED 101, 102, and 152 or 153 and substitute mathematics ...	9
GEE:	4

<i>Requirements for Major in Engineering Technology with Civil Engineering Technology Specialization</i>	94
Basic Sciences: Physics 203a,b, 253a,b; Chemistry 115	11
Mathematics 111, 150, 250	13
Engineering 222	2
Management 202	3
Engineering Technology 103, 202, 260a, 263, 310a, 311, 314a, 315, 317, 319, 364a, 365, 390, 415, and one of 361, 362, or 363....	45

¹Courses required in the major will apply toward 12 hours of General Education, making a total of 46 in that area.

Approved technical electives	17
Electives.....	3
Total	128

ENGINEERING TECHNOLOGY MAJOR – ELECTRICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The electrical engineering technology specialization is designed to prepare technologists who are capable of technical design and who can contribute to the development, production, testing, and installation of electrical and electronic devices, circuits, and systems. In addition, graduates are capable of participation in the planning and installation of power distribution systems and operating and maintaining complex electrical systems. Graduates of the program are employed in communications, power, electronics, sales, manufacturing, and other fields.

<i>General Education Requirements</i>	34 ¹
GEA: Biology and substitute basic sciences.....	3
GEB:.....	9
GEC:.....	9
GED: GED 101, 102, and 152 or 153 and substitute mathematics ...	9
GEE:.....	4
<i>Requirements for Major in Engineering Technology with Electrical Engineering Technology Specialization</i>	94
Basic Sciences: Physics 203a,b, 253a,b; Chemistry 115	11
Mathematics 108, 109, 150, 250	14
Management 202.....	3
Engineering 222	2
Engineering Technology 238, 245a, 304a, 304b, 332a, 332b, 403a, 403b, 437a, 437b, 438a, 438b	48
Approved technical electives	13
Electives.....	3
Total	128

¹Courses required in the major will apply toward 12 hours in General Education, making a total of 46 in that area.

ENGINEERING TECHNOLOGY MAJOR – MECHANICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The mechanical engineering technology specialization is designed to prepare graduates for a career in power and manufacturing industries; it provides a diverse background in general mechanical technology focusing in such areas as fluid power, computer-aided drawing, thermal science, mechanical design technology and mechanical aspects of manufacturing systems. Graduates are employed by electric utilities, manufacturing firms, architectural/engineering firms, and other industries which deal with mechanical products or equipment.

<i>General Education Requirements</i>	34 ¹
GEA: Biology and substitute basic science	3
GEB:.....	9
GEC:.....	9
GED: GED 101 , 102, and 152 or 153 and substitute mathematics	9
GEE:.....	4
<i>Requirements for Major in Engineering Technology with Mechanical Engineering Technology Specialization</i>	94

¹Courses required in the major will apply toward 12 hours in General Education, making a total of 46 in that area.

Basic Sciences: Physics 203a,b, 253a,b; Chemistry 115	11
Mathematics 111, 150, 250	13
Engineering 222	2
Management 202.....	3
Engineering Technology 103, 104, 245a, 260a, 260b, 311, 313a, 313b, 317, 318, 390, 401, 404, 408, 424a.....	45
Industrial Technology 209, 445, 455.....	9
Approved technical electives	11
Total	128

Courses

A suitable calculator and textbooks are required for most of the following courses.

103-3 Engineering Drawing I. Principles and practices of engineering drawing. Orthographic (multiview) projection; sections and conventions; the spatial relationship of points, lines, and planes; and revolution. Drawing supplies and problems workbook required, costing approximately \$15.

104-3 Engineering Drawing II. Principles and practices of engineering drawing. Representation of mechanical components, dimensioning, tolerancing, and mechanical drawing symbols. Introduction to computer-aided drawing systems with applications to both micro-computer and mini-computer systems. Prerequisite: 103.

202-2 Structural Detailing. Principles and practices of engineering drawing as applied to structural design with emphasis on reinforced concrete and structural steel drawings. Drawing supplies required, cost \$8. Prerequisite: 103.

236-2 Electrical Instrumentation. Theory and use of D.C. and A.C. instruments; measurement and error, units, standards, meters, bridges, oscilloscopes, electronic instruments, instruments for generation and analysis of waveforms, counters, and transducers. Laboratory. Prerequisite: Mathematics 111.

238-4 Digital Fundamentals. Introduction to fundamental concepts of digital systems, logic gates, simulation of logic gates, combinational logic design, Karnaugh maps, number systems, flip-flops, sequential circuits, digital circuit fault analysis, and comparison of logic families. Laboratory. Prerequisite: Mathematics 111.

245-8 (4, 4) Electrical Systems for Industry. (a) Electrical symbols and schematics, resistance, Ohm's Law, capacitance, inductance, Kirchhoff's Law, meters, A.C. fundamentals, transformers, power factor, and safety. Laboratory. Prerequisite: Mathematics 111. (b) Introduction to electronics: laboratory practices, oscilloscopes, meters, components, power supplies, amplifiers, and characteristics of semiconductor devices. Laboratory. Prerequisite: Mathematics 111.

260-6 (3, 3) Principles of Mechanics. (a) Statics. Concepts of force systems, moments, and equilibrium of rigid bodies, analysis of trusses and frames, determination of centroids, center of gravity, and moments of inertia, calculation of shear and moment diagrams in beams. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Dynamics. Friction; particles and rigid bodies in translation, rotation, and plane motion; relative motion; impulse and momentum; work and energy. Prerequisite: 260a, Mathematics 150.

263-3 Basic Surveying. Use and care of surveying instruments; principles of surveying practice and computation. Laboratory. Prerequisite: 103, Mathematics 111.

304-8 (4, 4) Electrical Circuits. (a) Solutions to D.C. steady-state networks by branch, equivalent circuit, loop circuit, and node voltage methods. Study of network theorems. Extension of these topics to A.C. steady-state by use of the phasor transform. Laboratory. Prerequisite: 245a, Mathematics 150 or concurrent enrollment. (b) Further topics in A.C. circuits; frequency response, resonance, filters, transformers and magnetic coupling, complex power, and dependent sources. Transient response by the classical solution of differential equations and by Laplace transform methods. Laboratory. Prerequisite: 304a, Engineering 222, Mathematics 250 or concurrent enrollment.

310-6 (3, 3) Heavy Construction. (a) The fundamental elements of heavy construction methods and equipment. Prerequisite: 260a or consent of instructor. (b) Construction planning, estimating, and management procedures and techniques. Civil engineer's scale required. Prerequisite: 310a.

311-3 Strength of Materials. Stress and strain; torsion, bending, and combined stresses; beam deflections; behavior of columns. Laboratory. Prerequisite: 260a, Engineering 222 or concurrent enrollment.

312-3 Materials Fundamentals for Design and Manufacturing. Applications and characteristics of metallic and nonmetallic materials used in design and manufacturing. Characteristics and properties of materials used in engineering applications. Fuels, combustion and nozzles. Laboratory. Prerequisite: Physics 203a,b; 253a,b.

313-6 (3, 3) Elementary Heat Power. (a) Fundamental laws of heat power, properties of systems,

liquids, vapors, and liquid-vapor mixtures. Prerequisite: Mathematics 150. (b) Engine cycles and applications. Fuels, combustion, and nozzles. Laboratory. Prerequisite: 313a.

314-6 (3, 3) Soil Mechanics. (a) Laboratory determination of the basic properties of soils; components of soil surveys; engineering soil classifications; fundamental study of soil properties. Laboratory. Laboratory notebook required, costing approximately \$4. (b) Soil water and seepage; frost action in soils; soil stabilization; stress distribution in soils and introduction to foundation design. Prerequisite: 260a, 314a.

315-3 Elementary Structural Analysis. Applications of the principles of mechanics to the determination of forces and deflections of statically determinate structures; approximate methods of determining member forces in indeterminate frames; study of various types of structures and loading conditions. Prerequisite: 260a, Engineering 222 or concurrent enrollment.

317-2 Fluid Mechanics. Fundamentals of fluid statics, basic fluid flow concepts for idealized fluids, flow networks, and introduction to viscous fluids. Prerequisite: Mathematics 111.

318-3 Hydraulics and Pneumatics. Viscous flow in closed conduits, basic hydraulic machinery, and fluid power systems. Laboratory. Prerequisite: 317.

319-3 Municipal Hydraulics. Flow measuring devices; collection, storage, and distribution of water; collection and transportation of sewage; pumps and pumping. Laboratory. Prerequisite: 317.

321-3 Instrumentation and Controls. Analog and digital signal conditioning; thermal, mechanical, and optical transducers; electrical pneumatic and hydraulic actuators; and control loop dynamics. Laboratory. Prerequisite: 245a.

332-8 (4, 4) Electromagnetic Principles and Devices. (a) Introduction to D.C. and A.C. machinery. Theory and operating characteristics of D.C. generators and D.C. motors. Laboratory. Prerequisite: 304a or concurrent enrollment. (b) Theory and operating characteristics of polyphase and single-phase A.C. motors. Special applications of A.C. and D.C. motors. Laboratory. Prerequisite: 332a, 304a or concurrent enrollment.

342-2 Technology Design. An elective project on any technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: senior standing.

361-3 Project Surveying. Surveying process for civil engineering projects; easements; precise surveying; related computations. Laboratory. Prerequisite: 263.

362-3 Land Surveying. U.S. Public Land System and boundary surveys; survey laws; legal descriptions; title search; related computations; subdivision development. Laboratory. Prerequisite: 263.

363-3 Control Surveying. Topographic surveying; geodesy; route surveying; construction stake-out; related computations. Laboratory. Prerequisite: 263.

364-7 (4, 3) Highway Engineering Technology. (a) Highway surveys, plans and computations. Highway design, drainage, roadside development and subgrade structure. Study of types of base courses, pavements, and surfaces. Highway construction and maintenance. Laboratory. Prerequisite: 263 or consent of instructor. (b) Highway administration, planning, economics, and finances. Traffic engineering. Introduction to railroad and airport design. Prerequisite: 364a.

365-3 Water Treatment and Sanitation. Introduction, description, and design of potable water and wastewater facilities. Chemical coagulation, sedimentation, disinfection, and hardness removal of water. Sanitation measures and control of communicable diseases. Prerequisite: senior standing in civil engineering technology or consent of instructor.

390-3 Cost Estimating. (Same as Industrial Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

401-3 Refrigeration and Air Conditioning. Applications of thermodynamics and heat flow to air conditioning systems. Heating and cooling load analysis. Principles of human comfort. Discussion of various refrigeration and air conditioning cycles and their application to laboratory simulators. Prerequisite: 313b, laboratory.

403-8 (4, 4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, optoelectronic devices, thyristors, unijunction transistors and amorphous semi-conductors. Laboratory. (b) Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a,b sequence. Prerequisite: 304b.

404-3 Machine Design Technology. Strength and safety considerations in design of machine parts. Fatigue and stress concentrations, bearings, brakes, clutches, and springs. Applications of the principles of mechanics to problems of design and development, mechanisms. Laboratory. Not for graduate credit. Prerequisite: 260a, 311.

408-3 Computer Assisted Drawing and Design. Theory and practice of computer graphics as applied to computer assisted design. Use of programming and commercial programs to assist in mechanical engineering technology design projects. Not for graduate credit. Prerequisite: 103, 404, Engineering 222, and senior standing.

412-3 Survey Design and Land Development. Subdivision and land development principles,

methods, and procedures, including laws relating to subdivision and land development. Scope will include rural and urban subdivisions, industrial parks, and major recreational developments. Laboratory. Not for graduate credit. Prerequisite: 263.

413-4 Field Survey Problems. Perform extensive field projects in the areas of engineering, hydrographic, land and control surveying. To be held at Crab Orchard National Wildlife Refuge. Course must be taken concurrently with 414. Prerequisite: 263 and one of 361, 362, or 363.

414-2 Field Project Planning and Computations. Planning, organization, computations, and drafting of field survey projects including the needed mapping utilizing calculators, computers, and CAD. This course must be taken concurrently with 413. Prerequisite: 263 and one of 361, 362, or 363.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISC and ACI codes. Prerequisite: 202, 311 (or concurrent enrollment), 315.

424-6 (3, 3) Power Systems Technology. (a) Fundamentals of basic power plant operation and equipment; e.g., fuels, steam generators, heat exchangers, turbines, pumps, and nuclear reactors. Prerequisite: 313a, Engineering 222. (b) A study of cycles, heat balances, efficiencies, and power plant economics. Student is exposed to the design considerations and trade-offs associated with the total design of a power plant. Prerequisite: 318, 424a.

426-5 (3, 2) Photogrammetry. (a) Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs; ground control methods; extension of control; stereoscopy and parallax; basic instruments, stereo plotters, and latest developments. Laboratory. Prerequisite: 263 or consent of instructor. (b) Rectification of tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.

437-8 (4, 4) Communications Systems Technology. (a) Theory and applications of radio frequency transmission lines, waveguides, optical fibers, wave propagation, and antennas. Laboratory. Prerequisite: 304b. (b) Theory and applications of analog and digital communications systems. Laboratory. Prerequisite: 403a, 437a.

438-8 (4, 4) Continuous and Digital Control Systems. (a) Fundamentals of continuous control systems; equation of electrical, hydraulic and thermal systems; application of Laplace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams and compensator design. Continuous systems laboratory. Prerequisite: 304b. (b) Fundamentals of digital control systems, Stepper motors, digital data acquisition and interface components, Fourier transforms, Z transforms, and applications of fast Fourier transform. Digital control laboratory. Prerequisite: 438a.

439-4 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 238.

492-1 to 6 Special Problems in Industry and Technology. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Prerequisite: consent of instructor.

English (Department, Major, Courses)

The major in English is 36 semester hours at least half of which must be taken at Southern Illinois University at Carbondale. The English major may choose from four specializations.

Students who wish to declare English as a major should consult the director of undergraduate programs in English early in their college careers. Continuing students who wish to declare an English major should petition the Department of English for admission to the department. Transfer students should bring their transcripts and evaluation of transfer credit. Thereafter, all English majors must have their advance registration forms signed by an adviser in the Department of English. Only English courses which are completed with at least a *C* will fulfill a major requirement. Deviations from regular programs must have prior written department approval.

Students who wish to construct an inter-departmental major in English and certain related fields may do so in consultation and with the approval of the director of undergraduate programs in English.

All students are strongly urged to supplement their English majors through the study of classical and modern languages, as well as the study of foreign literature in translation. Majors preparing for graduate school should take two years of a foreign language.

Although a minor field is not required, students are urged to consider complementary minor fields such as foreign languages and literatures, history, philosophy, and journalism.

ENGLISH CORE CURRICULUM

All students majoring in English will take the following courses:
English 302a, 302b, 309, 390, and 471 or 472.

**Bachelor of Science Degree, College of Education or
Bachelor of Arts Degree, College of Liberal Arts**

Students who wish to become certified teachers of English may pursue their majors as follows:

<i>General Education Requirements</i>	46
Must include GEB 114, 202, 301; GEC 213, 330; GED 101, 102 and GED 152 or 153.	
<i>Requirements for Major in English</i>	36
<i>Professional Education Requirements</i>	25 ¹
See Teacher Education Program, Chapter 3.	

¹In order to qualify for entrance into the teacher education program and for a student teaching assignment, students must have a grade point average of at least 2.50 (A is 4.0) in the major.

<i>Electives</i>	13
Students in the College of Liberal Arts must complete the college requirements as a part of the 13 hours. (See Chapter 3.)	

<i>Total</i>	120
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In addition to the core curriculum teacher training candidates will take the following courses:
English 300; 485; a 400-level course in English literature before 1800; a 400-level course in American literature before 1900; a 400-level course in continental literature; two electives chosen from 300 and 400-level English courses.

Bachelor of Arts Degree, College of Liberal Arts

A student may wish to pursue one of several specializations in the College of Liberal Arts. The degree earned and the requirements for the degree are as follows:

<i>General Education Requirements</i>	46
GEC 330 must be taken as a part of the GEC requirement.	
<i>Academic College Requirements</i>	6-8
Refer to catalog section titled College of Liberal Arts	
<i>Requirements for Major in English</i>	36
<i>Electives</i>	30-32
<i>Total</i>	120

ENGLISH MAJOR – GENERAL SPECIALIZATION

In addition to the core curriculum, students will take seven electives from the 200, 300, and 400-level courses in English, with several courses at the 400-level. At least one of these elective courses must be a course in English literature before 1800, one a course in American literature before 1900, and one a course in continental literature. In addition, at least one of these elective courses must be in each of the three major genres: prose fiction, poetry, and drama. Students plan-

ning to enter graduate school are strongly urged to take two years of a foreign language or the equivalent. Students should consult with their departmental adviser to achieve a suitable range and breadth of course work.

ENGLISH MAJOR – CREATIVE WRITING SPECIALIZATION

In addition to the core curriculum, students should take two courses selected from English 281, 282, 283; two courses from 381, 382, 383; English 351 or 352; English 492; and at least one other 400-level English course. Students are strongly urged to take additional 400-level courses in English.

ENGLISH MAJOR – PREPROFESSIONAL SPECIALIZATION

In addition to the core curriculum, majors interested in such fields as law, business, and government will take the following courses:

English 300, 391, 445; four electives, which may concentrate on a special interest, and which, with the consent of the departmental adviser, may include courses in other departments.

ENGLISH MAJOR – DEPARTMENTAL HONORS PROGRAM SPECIALIZATION

The department honors program is open to all undergraduate English majors who maintain a 3.5 grade point average in their English major courses and a 3.25 average overall. Determination of eligibility will be made at the beginning of the student's second semester of junior level work.

In addition to the core curriculum, the honors student should take at least four elective courses on the 400 level. 200 and 300-level creative writing courses may count as electives for students initially enrolled in the creative writing option, and English 300 will count as an elective for students initially enrolled in the teaching option. In addition, the student must take at least one English honors seminar, English 497, for three hours of credit, and write a senior honors research paper. If the student elects, the paper will count for six hours of credit toward the English major. The student may elect to write a paper worth only three hours of credit. In that case the student must take a second English honors seminar worth three hours of credit.

The senior honors paper will be an independent research project undertaken through mutual agreement between the honors student and a member of the continuing English faculty.

Minor

The minor in English is a minimum of 18 semester hours at least half of which must be taken at Southern Illinois University at Carbondale. Only English courses which are completed with at least a *C* fulfill a minor requirement. Minors are available with several specializations, and the following are listed as examples only. Students interested in English as a minor are invited to confer with the director of undergraduate programs in English, or an adviser in the Department of English.

ENGLISH MINOR – TEACHING SPECIALIZATION (18 Hours)

For students who wish to meet the minimum certification requirements for teaching English in the secondary schools, the following courses are required: English 209; 300; 390; 471 or 472; and two of the following: English 302a, 302b, 309, 445.

ENGLISH MINOR – PREPROFESSIONAL SPECIALIZATION (18 Hours)

English 209; 300; 391; 445; 471 or 472; and one elective from the 200-, 300-, or 400-levels (English 290 or 390 recommended).

ENGLISH MINOR – CREATIVE WRITING SPECIALIZATION (18 Hours)

Creative writing minors should take at least one course from English 281, 282 or 283; one course from English 381, 382, or 383; English 351 or 352; English 492; and two 300- or 400-level English courses.

ENGLISH MINOR – WORLD LITERATURE SPECIALIZATION (18 Hours)

English 209, 390; and four courses from 425, 438, 445, 455, 465. For further information, see catalog section titled Comparative Literature.

ENGLISH MINOR – OTHER SPECIALIZATIONS (18 Hours)

Students wishing to arrange other specializations in English should consult the director of undergraduate programs in English or one of the departmental advisers.

Courses

119-3 Introduction to Creative Writing. Practice in writing poetry and fiction. Prerequisite: GED 102.

199-1 Special Topics and Projects. Topics and projects, including laboratory work, to aid students in developing specialized writing skills. Prerequisite: consent of department.

201-3 Introduction to Drama. Students will read and discuss plays of different types and periods. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

202-3 Introduction to Poetry. Students will read and discuss poems of different types and periods. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

209-3 Introduction to the Forms of Literature. Poetry, drama, and fiction. Statement and illustration of the techniques of the three genres over the range of American and English literature. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

210-3 Introduction to Fiction. Students will read and discuss a variety of American and European short stories and novels. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

225-3 Women in Literature. (Same as Women's Studies 225.) Examines the ways in which women are portrayed in literature, especially in twentieth-century novels, drama, short fiction, and poetry written by women. Prerequisite: GED 102; or GED 120.

281-3 Creative Writing: Beginning Fiction. Introduction to basic techniques of writing creative prose with emphasis on characterization, plot, and narrative devices. Study and application of various methods of short story writing. Exercises. Critiques. Prerequisite: GED 102; or 120; or consent of instructor.

282-3 Creative Writing: Beginning Poetry. Introduction to basic theories and techniques of poetry writing with emphasis on metrics, forms, and poetic stanzas. Study and application of each of these general aspects of writing poetry. Exercises. Critiques. Prerequisite: GED 102 or 120; or consent of instructor.

283-3 Creative Writing: Beginning Drama. Introduction to basic problems and techniques of dramatic presentation. Emphasis on producing works for the amateur market, with a secondary purpose of advising future teachers of possibilities of using plays, skits, etc., as teaching aids. Exercises in creating original dramatic material. Critiques. Prerequisite: GED 102 or 120; or consent of instructor.

290-3 Intermediate Expository Writing. Designed for any University student, to improve writing skills beyond freshman composition. Based on individual needs and areas of specialization. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

291-3 Intermediate Technical Writing. An intermediate course in technical and professional writing for sophomores, juniors, and seniors. Intended for students preparing for careers in applied technology, science, agriculture, business, and other fields where practical writing is a part of the daily routine. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.

293-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.

300-3 Introduction to Language Analysis. Nature of language and linguistic inquiry. Dialectology, usage, and chief grammatical descriptions of present day American English. Required of teacher training candidates.

302A-3 Literary History of England, Beowulf to 1800. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from Beowulf to 1800.

302B-3 Literary History of England, 1800 to Present. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from 1800 to the present.

- 309-3 A Literary History of the United States.** Social, historical, and intellectual backgrounds of American literature, with selected readings for each period. Elective Pass/Fail.
- 325-3 Black American Writers.** Poetry, drama, and fiction by Black American writers. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.
- 332-3 Folktales and Mythology.** A survey of non-classical mythology and folktales, emphasizing its medieval and modern aspects as well as the use of folklore in major literary works. Readings will cover Norse, Celtic, and Middle Eastern mythology, their use by English and American writers, such as Tennyson, Irving, and Hawthorne and the popular folk-ballad. Students are encouraged to explore other aspects of world folklore in their independent research papers.
- 333-3 The Bible as Literature.** To introduce students to types of literature in the Bible while familiarizing them with Biblical texts.
- 335-3 The Short Story.** Reading and discussion of short stories by American and European authors. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.
- 351-3 Forms of Fiction.** A study of fictional forms with special concentration on the most significant contemporary fiction including selected readings from current periodicals. This course is taught by a publishing fiction writer and designed for student fiction writers. Prerequisite: 281 or consent of instructor.
- 352-3 Forms of Poetry.** A study of poetic forms with special concentration on the most significant contemporary poetry, including selected readings from current periodicals. This course is taught by a publishing poet and designed for student poets. Prerequisite: 282 or consent of instructor.
- 365-3 Shakespeare.** Reading and discussion of the major plays. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.
- 381-3 Creative Writing: Intermediate Fiction.** Emphasis on the long short story and novella with exercises and study oriented to more sustained forms of prose than the short story. Theories and techniques of extended fictional forms treated. Critiques. Prerequisite: GED 101 and GED 102; or GED 120; or equivalent.
- 382-3 Creative Writing: Intermediate Poetry.** Concentration on modern forms and theories of poetry. Writing assignments and exercises in the application of various poetic techniques, primarily 20th century American. Critiques. Prerequisite: 282 or consent of instructor.
- 383-3 Creative Writing: Intermediate Drama.** Concentration on serious literary statements through drama, and on practical instruction in writing extended and concentrated dramatic forms. Presentation of various dramatic theories through the study of representative plays. Drama writing exercises and critiques. Prerequisite: 283 or consent of instructor.
- 390-3 Advanced Composition.** Expository writing. Prerequisite: C average in GED 120; or C average in GED 101 and 102; or equivalent. Open to English majors and minors or with consent of department.
- 391-3 Precision in Reading and Writing.** To improve the student's ability to read and write with precision and clarity, depending on reading complex material (requiring no particular background for comprehension) and on writing precis of it. Prerequisite: grade of B in GED 102; or C in GED 120; or C in English 290.
- 393-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.
- 401-3 Modern English Grammars.** A review of modern approaches to grammatical analysis in English language (only), this course is specifically designed to meet needs of in-service or prospective teachers of composition and language arts, particularly at the secondary and college levels.
- 403-3 History of the English Language.** A survey of the development of the language from Indo-European to modern English with special emphasis on Middle and Early Modern changes.
- 404-3 Middle English Literature Excluding Chaucer.**
- 405-3 Middle English Literature: Chaucer.**
- 412-3 English Non-Dramatic Literature: The Renaissance.**
- 413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century.**
- 414-3 English Non-Dramatic Literature: The Later Eighteenth Century.**
- 421-3 English Romantic Literature.**
- 422-3 Victorian Poetry.** Victorian poets: Tennyson, Browning, Arnold, and other poets in England.
- 423-3 Modern British Poetry.**
- 425-3 Modern Continental Poetry.** Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece.
- 426-3 American Poetry to 1900.** Trends in American poetry to 1900 with a critical analysis of the achievement of the more important poets.
- 427-3 American Poetry from 1900 to the Present.** The more important poets since 1900.
- 436-3 to 9 (3 per topic) Major American Writers.** Significant writers of fiction and nonfictional prose from the Puritans to the 20th Century. May be repeated only if topic varies, and with consent of department.

- 438-3 Intellectual Backgrounds of American Literature.** The relationship of basic ideas in America to American literature.
- 445-3 Cultural Backgrounds of Western Literature.** A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers.
- 451-3 Eighteenth Century English Fiction.** Defoe through Jane Austen.
- 452-3 Nineteenth Century English Fiction.** Victorian novel: 1830-1880.
- 453-3 Modern British Fiction.**
- 455-3 Modern Continental Fiction.** Selected major works of European authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.
- 458-3 American Fiction to the Twentieth Century.** The novel in America from its beginnings to the early 20th Century.
- 459-3 American Fiction of the 20th Century.** Trends and techniques in the American novel and short story since 1914.
- 460-3 Elizabethan and Jacobean Drama.** Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Greene, Peele, Marlowe, Heywood, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley.
- 462-3 English Restoration and 18th Century Drama.** After 1660, representative types of plays from Dryden to Sheridan.
- 464-3 Modern British Drama.**
- 465-3 Modern Continental Drama.** The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain, and Portugal.
- 468-3 American Drama.** The rise of the theater in America, with readings of plays, chiefly modern.
- 471-3 Shakespeare: The Early Plays, Histories, and Comedies.**
- 472-3 Shakespeare: The Major Tragedies, Dark Comedies, and Romances.**
- 473-3 Milton.** A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises.
- 481-3 Literature for the Adolescent.** Criteria for evaluation of literary materials for junior and senior high school, with emphasis on critical approaches in selection of literature.
- 484-3 Non-Print Media and English.** Theory and application of film and other non-print media to the study and teaching of English. Especially emphasized is the relationship between print and non-print communications systems and verbal and non-verbal systems. Prerequisite: consent of instructor.
- 485-3 Problems in Teaching Composition, Language, Literature and Reading in High School.**
- 490-3 Expository Writing.** An advanced expository writing course designed to improve the student's ability to write clear and effective expository prose. The main work of the course will consist of the writing and revising of a set of essays that reflect a variety of rhetorical strategies. Required readings will provide models and subject matter for some of the assignments. Prerequisite: GED 101 and 117, 118, 119 or 120 or equivalent; English 390 or equivalent.
- 491-3 Technical Writing.** An all-University course designed to teach advanced academic and professional (non-fictional) writing skills. Prerequisite: GED 102 or equivalent.
- 492-3 to 9 Creative Writing Seminar.** The topic varies among the writing of poetry, drama, or prose. A directed written project will be submitted at the end of the semester in prose, poetry, or drama. A collection of short stories or poems, a novel or play of what instructors consider to be acceptable quality will fulfill the workshop requirement.
- 493-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies.
- 494-3 Literary Criticism Applied to Film.** The course will deal with the history and theories of literary criticism. Students will have the opportunity to apply concepts of literary criticism to a series of films which they will view. A \$10 screening fee is required.
- 495-3 Literary Criticism.** Includes both history of criticism and modern criticism. Open only to seniors and graduate students.
- 496-3 to 6 (3, 3) Topics in Women's Literature.** (Same as Women's Studies 454.) Syllabus, which may vary with instructor, identifies new areas of research on women authors and includes an examination of appropriate critical models that have emerged in feminist criticism.
- 497-3 to 9 (3 per topic) Senior Honors Seminar.** Topics vary yearly. May be repeated as the topic varies. Prerequisite: departmental approval and undergraduate status.
- 498-3 to 9 Internships.** For English majors only. Student may take up to nine semester hours to receive credit for internships with SIU Press, Special Collections, University Museum, Coal Center, and other academic units. Prerequisite: written approval from department and academic unit.
- 499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language.** For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours.

Equine Studies

(SEE ANIMAL SCIENCE)

Finance (Department, Major, Courses)

The financial implications of decisions in both business and government are daily becoming more complex. Within the firm, financial considerations permeate the concentrations of research, engineering, production, and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interests of students: (1) financial management and (2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in the operations of financial intermediaries and financial markets. Certain courses may require the purchase of additional materials.

Bachelor of Science Degree, College of Business and Administration

<i>General Education Requirements</i>	46
<i>Professional Business Core (See Chapter 3.)</i>	40
<i>Requirements for Major in Finance</i>	21
Finance 331, 361.....	6
Specialization (choose one).....	15
Financial Institutions	
Finance 341, 449	
Select three: 320, 432, 433, 462	
or	
Finance 320, 341	
Finance 432 or 433	
Select two: 321, 322, 323, 480	
Financial Management	
Finance 469	
Finance 480 or upper division accounting course	
Select three: 432, 433, 462, 463, 464	
<i>Electives</i>	13
<i>Total</i>	120

Courses

- 270-3 The Legal and Social Environment of Business.** An examination of the legal, social, and political forces that influence business and businessmen. Particular attention to the role of law as an agency of social control in the modern business society. Prerequisite: sophomore standing.
- 280-3 Business Law I.** Legal problems arising from situations involving contracts and agency and business organizations. Not pass/fail for business majors.
- 300-3 Personal Finance.** An introduction to the problems of personal financial asset management, including income and expense budgeting. Emphasis also placed on consumer credit, insurance, investments, home ownership, and taxation. Will not count toward a major in finance. Prerequisite: junior standing and must be a business (not prebusiness) major or consent of department.
- 310-3 Insurance.** Fundamentals of insurance and risk management including a study of se-

- lected insurance contracts and alternative methods of controlling risk exposures. Prerequisite: junior standing and must be a business (not prebusiness) major or consent of department.
- 320-3 Real Estate.** Problems of real estate ownership, management, financing, and development. Prerequisite: junior standing and must be a business (not prebusiness) major or consent of department.
- 321-3 Real Estate Finance.** A study of the instruments, techniques, and institutions of real estate finance; sources of and methods for obtaining funds for real estate investments; mortgage risk analyses. Prerequisite: 320 or consent of instructor and junior standing and must be a business (not prebusiness) major or consent of department.
- 322-3 Real Estate Appraisal.** The techniques and art of real estate valuation using market comparison, cost, and income approaches. Includes appraisal principles, procedures, and applications. Prerequisite: 320 or consent of instructor and junior standing and must be a business (not prebusiness) major or consent of department.
- 323-3 Real Estate Law.** A survey of legal principles applicable to real property, including the following: conveyances, titles, land descriptions, rights and duties of ownership, and the law of real estate brokerage. Prerequisite: 320 or consent of instructor and junior standing and must be a business (not prebusiness) major or consent of department.
- 330-3 Introduction to Finance.** Study of issuance, distribution, and purchase of financial claims including the topics of financial management, financial markets, and financial investments. Prerequisite: Accounting 230, Economics 215, and junior standing and must be a business (not prebusiness) major or consent of department.
- 331-3 Investments.** Survey of the problems and procedures of investment management; types of investment risks; investment problems of the individual as well as the corporation. Prerequisite: 330 and must be a business (not prebusiness) major or consent of department.
- 341-3 Financial Markets.** Operations of capital markets. Sources and uses of funds of financial institutions. Prerequisite: 330 or concurrent enrollment and must be a business (not prebusiness) major or consent of department.
- 350-3 Small Business Financing.** Financing problems involved in raising venture capital, debt type funds, expansion funds, and government sponsored funding. Budgeting, working capital management, and fixed asset planning are covered. Prerequisite: Accounting 230 and Economics 215 or consent of department; junior standing and must be a business (not prebusiness) major or consent of department.
- 361-3 Management of Business Finance.** The principal problems of managing the financial operations of an enterprise. Emphasis upon analysis and solutions of problems pertaining to policy decisions. Prerequisite: 330 and Economics 208 and must be a business (not prebusiness) major or consent of department.
- 380-3 Business Law II.** Legal problems arising from situations involving sales, commercial paper, secured transactions, and property. Prerequisite: junior standing and must be a business (not prebusiness) major or consent of department.
- 432-3 Options and Futures Markets.** Study of modern concepts and issues in financial options and futures markets. Emphasis on risk management in financial institutions, and applications in corporate finance and funds management. Not for graduate credit. Prerequisite: 331 and 361 (361 may be taken concurrently) and must be a business (not prebusiness) major or consent of department.
- 433-3 Portfolio Theory and Management.** Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 331 and 361 (361 may be taken concurrently) and must be a business (not prebusiness) major or consent of department.
- 449-3 Management of Financial Institutions.** Principal policies and problems which confront top management. Emphasis on liquidity, loans, investments, deposits, capital funds, financial statements, organization structure, operations, personnel, cost analysis, and public relations. Not for graduate credit. Prerequisite: 330 and 341 and must be a business (not prebusiness) major or consent of department.
- 462-3 Working Capital Management.** Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk and uncertainty; theory and applications of management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 361 or concurrent enrollment and must be a business (not prebusiness) major or consent of department.
- 463-3 Forecasting and Capital Budgeting.** Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement; and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 361 or concurrent enrollment and must be a business (not prebusiness) major or consent of department.
- 464-3 International Financial Management.** Financial behavior of multinational firms. Em-

phasis on the modification of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 361 or concurrent enrollment and must be a business (not prebusiness) major or consent of department.

469-3 Managerial Financial Policy. Development of financial strategies and policies based on an evaluation of alternative approaches. Emphasis upon application of financial concepts and techniques to real-life situations. Not for graduate credit. Prerequisite: 361.

480-3 Problems in Labor Law. Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources. Prerequisite: must be a business (not prebusiness) major or consent of department.

491-1 to 6 Internship in Finance. Designed to provide an opportunity to relate certain types of work experience to the student's academic program and objectives. Approved internship assignments with cooperating companies in the fields of finance are coordinated by the faculty member. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of department chairperson and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.

495-1 to 6 Readings in Finance. Readings in classical and current writing on selected topics in various areas in the field of finance not available through regularly scheduled courses. Not for graduate credit. Prerequisite: consent of department chairperson and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.

Fire Science Management (Major, Courses)

This major is designed to provide advanced practical course work in the areas of management and supervision. It is designed primarily for those who hold or are nearing completion of the Associate in Applied Science degree or its equivalent in a fire science-related field from a technical institute or community college. The major is presently offered only at off-campus sites. Contact the office of off-campus programs for information on enrollment availability.

Many graduates are employed in supervisory and management positions in the fire service, insurance industry, fire equipment manufacturing industry, and related fields.

Bachelor of Science Degree, College of Technical Careers

<i>General Education Requirements</i>	46
<i>Requirements for Major in Fire Science Management</i>	48
Core Requirements: Advanced Technical Studies 364, 416, and (two of the following 332, 383, 421)	12
Eighteen hours selected from Fire Science Management 387, 402, Advanced Technical Studies 412, Political Science 340, 443, and Industrial Technology 465.....	18
Twelve hours of internship, independent study, or approved equivalent.....	12
Six hours of Fire Science Management electives approved by the adviser.....	6
<i>Approved Career Electives</i>	26
<i>Total</i>	120

Courses

387-3 Fiscal Aspects of Fire Service. An introduction to the fiscal problems encountered in the administration of fire service facilities.

402-3 Current Issues in Fire Science Services. A review of the current problems affecting the fire service with particular emphasis on resource allocation, planning, and constraints. Not for graduate credit.

410-3 Fire Prevention and Inspection. Laws and regulations affecting fire prevention; administering building and fire codes; interpreting building, fire prevention, and state fire marshal codes; and inspection procedures. Not for graduate credit.

411-3 Fire Insurance Rating. Analysis of fire hazards for computing fire insurance rates. Actu-

arial basis of rating schedules with particular emphasis on the analytic system for measurement of relative fire hazard. Not for graduate credit.

Food and Nutrition (Major, Courses)

The food and nutrition program is a part of the Department of Animal Science, Food and Nutrition.

Students will be required to take field trips in those courses so designated with the expenses pro-rated for each student. Appropriate uniforms will be required of all students enrolling in those courses that involve preparation of food.

Bachelor of Science Degree, College of Agriculture

FOOD AND NUTRITION MAJOR – DIETETICS SPECIALIZATION

These courses give a strong scientific education to those interested in becoming dietitians in hospitals, college dormitories, industrial plants, health clinics, laboratories, or public health and welfare organizations. They meet the academic requirements of the American Dietetics Association. Eligibility to write the registration examination to become a registered dietitian (RD) requires completion of academic and experiential requirements.

General Education Requirements	46 ¹
Requirement for Major in Food and Nutrition with Specialization in Dietetics	75
GEA 115.....	(3)
GEB 202.....	(3)
GED 107.....	(3)
GED 102.....	(3)
Food and Nutrition 215, 256, 320, 335, 360a, 470, 490	22
Microbiology 301.....	4
Physiology 310.....	5
Psychology 309 or Vocational Education Studies 321	2-3
One of the options listed below.....	41-42
Total	121
General Dietetics Option	
Chemistry 222a,b, 380a,b.....	(3) + 13
GEB 104 or GEB 108	(3)
GEB 211 or Economics 214 or 215	(3)
Food and Nutrition 361, 363, 471, 472.....	11
Computer Information Processing 109 or Educational Psychology 402 or Computer Science 212.....	3
Management 301 or 304.....	3
Electives	11-12
Total.....	41-42
Clinical Dietetic Option	
Chemistry 222a,b, 380a,b.....	(3) + 13
Physiology 300 or 301	3-4
GEB 104 or GEB 108	(3)
GEB 211 or Economics 214 or 215	(3)
Food and Nutrition 471, 472, 420 or 480	9
Educational Psychology 402	3

¹The numbers in parentheses are counted as part of the 46-hour General Education requirements.

Management 301 or 304.....	3
Electives	9-10
<i>Total</i>	41-42
Management Dietetics Option	
Chemistry 140a,b	(3) + 5
Economics 215, 310.....	(3) + 3
Food and Nutrition 360b, 361, and 363	8
Management 304, 385	6
Accounting 220, 230	6
Educational Psychology 402	3
Electives	10-11
<i>Total</i>	41-42
Community Dietetics Option	
Chemistry 222a,b, 380a,b.....	(3) + 13
GEB 104 or GEB 108	(3)
GEB 211 or Economics 214 or 215	(3)
Food and Nutrition 361, 363, 471, 472, 480.....	14
Educational Psychology 402	3
Management 301 or 304.....	3
Electives	8-9
<i>Total</i>	41-42

FOOD AND NUTRITION MAJOR – FOOD AND LODGING SYSTEMS MANAGEMENT SPECIALIZATION

These courses prepare students for positions as food systems managers for restaurants, hotels, school food service, public and private lodging facilities, airlines, industrial feeding, resorts, institutions, hospitals, and clubs. They meet the requirements as set forth by industry, the Council of Hotel, Restaurant, and Institutional Education, and the National Restaurant Association. Through this program in the hospitality field, transfer students from community colleges also will be able to complete their baccalaureate degrees.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Food and Nutrition with Specialization in</i>	
Food and Lodging Systems Management	59-61
GEA 115.....	(3)
GEB 202.....	(3)
Accounting 220, 230	6
Management 304.....	3
Animal Science 210	3
Chemistry 140a.....	(3) + 1
Economics 214 or 215.....	(3)
Computer Information Processing 109 or Computer Science 212	3
Finance 280	3
Food and Nutrition 215, 256, 335, 360a,b, 361, 363, 371, 372, 373, 406 or Microbiology 301.....	34-36
Marketing 304.....	3
Psychology 320	3
<i>Electives</i>	13-15
Recommended electives: GEE 236; Chemistry 140b; Curriculum and Instruction 227, 237; Finance 350, Food and Nutrition 320, 420, 421, 470; Management 202, Microbiology 421.	
<i>Total</i>	120

FOOD AND NUTRITION MAJOR – FOOD AND NUTRITION SCIENCE SPECIALIZATION

These courses give a strong scientific education to those interested in preparing for graduate study in food, nutrition, or related discipline; for research in university, industrial, or governmental laboratories; or for educational and promotional work in industry or public health organizations.

General Education Requirements..... 46

Requirements for Major in Food and Nutrition with Specialization in Food and Nutrition Science 53-56

 GEA 115..... (3)

 GEB 202..... (3)

 Chemistry 222a,b, 344, 345, 346, 347, 450 (3) + 18-19

 Food and Nutrition 215, 256, 320, 420, 421..... 15

 Mathematics 108 and 109 (3) + 3

 Microbiology 301 and 421 and 422 or 403 and 404 9-10

 Physiology 208, 209 or 310 4-5

 Psychology 211 4

Electives..... 18-21

 Recommended electives: Chemistry 451a,b; Curriculum and Instruction 227, 237; Food and Nutrition 490; Health Education 490; Physiology 300, 410a,b, 420.

Total 120

Courses

See also Animal Science for additional 400 and 500-level courses.

- 156-3 Fundamentals of Foods.** An introduction to the basic principles and techniques of food preparation. A charge of \$15 will be made for laboratory.
- 202-3 The Hospitality and Tourism Industries.** Introduction to the diverse aspects of the hospitality and tourism industries and the interrelationships between them. Historical development of the industries, trends, current issues and career opportunities will be examined.
- 203-3 Dimensions of Tourism.** In-depth examination of the components of the travel and tourism industry, motivators to travel, and the various market segments. Also covers analysis of the economic, social, cultural and environmental impacts to tourism. Prerequisite: 202 or consent of instructor.
- 215-2 Introduction to Nutrition.** (Same as Animal Sciences 215.) An up-to-date study of basic principles of nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of nutrition in today's environment.
- 247-3 (1, 1, 1) The School Lunch Program.** (a) Food purchasing; (b) quantity food production; and (c) nutrition practices in the school lunchroom.
- 256-5 Science of Food.** Application of scientific principles including preparation, chemistry, functions, and interrelationships in ingredients and their effects on physical, chemical, and sensory characteristics of foods. Three lectures and two three-hour laboratories per week. A charge of \$20 will be made for laboratory. Prerequisite: Chemistry 140a or 222a.
- 320-3 Nutrition.** Principles of nutrition in relation to intermediary metabolism and the role of vitamins and minerals. Prerequisite: 215, Chemistry 140 or equivalent.
- 321-2 Food and Nutrition Assessments.** Demonstration and use of tools and practices in assessing food and nutrition behaviors of individuals and groups in clinical and community nutrition care settings. Includes merchandising food and nutrition services as part of marketing strategies. Prerequisites: 215, 256.
- 335-2 Meal Management.** The selection, purchase, preparation, and service of food with emphasis on time and money management. A charge of \$25 will be made for laboratory. Prerequisite: 256.
- 356-3 Experimental Foods.** Experimental approach to the study of factors influencing the behavior of foods. Individual problems. A charge of \$10 will be made for laboratory. Prerequisite: 256.
- 360-7 (4, 3) Quantity Food Production.** (a) Selection and use of institutional food service equipment including specifications, cost, and care; use of standardized formulas, techniques of quantity preparation, and service of food to large groups. Prerequisite: 256 or equivalent; (b) practical experiences in area food service units. Prerequisite: 256 or equivalent.

361-3 Food Service Organization and Management. Policies, budgets, supervision, and personnel in feeding large groups.

363-2 Food Purchasing for Institutions. Principles and methods of purchasing food in quantity.

371-2 to 6 Field Experience. Opportunity for supervised learning experiences in the student's major. Prerequisite: consent of instructor or chairperson.

372-3 Food Systems in the Lodging Industry. Principles and concepts of effective front office management in the lodging industry.

373-2 Food and Beverage Controls. Duties and responsibilities of the manager in restaurant, catering, hospitals, and club operations. The use of management methods in budgeting, forecasting, controlling costs, and establishing operational policies in food and beverage cost control. Prerequisite: Accounting 210 or equivalent.

406-2 Food Service Sanitation. Emphasizes the importance of food service sanitation and its application in institutions, restaurants, and the hospitality industry. Upon successful completion of the course, students receive the Illinois State Sanitation Certificate. Prerequisite: consent of instructor.

410-3 Educational Nutrition. The objective of this course is to provide teachers in public and non-public elementary and secondary schools with the necessary background to incorporate food and nutrition into the educational curriculum.

420-3 Recent Developments in Nutrition. Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent.

421-2 Recent Trends in Food. Critical study of current scientific literature in food. Prerequisite: 320 or equivalent.

425-3 Energy and Nutrition Utilization. The interrelationship of cell physiology, metabolism and nutrition as related to energy and nutrient utilization, including host needs and biochemical disorders and diseases requiring specific nutrition therapy or consideration. Prerequisites: 320, Chemistry 140b, Physiology 310.

470-3 Nutrition Therapy I. Physiological and biochemical changes in certain diseases and the appropriate nutrition therapy. Prerequisite: 320, Chemistry 140b or 352, and Physiology 210.

471-3 Nutrition Therapy II. In depth study of the application of nutrition to the management of disease states with emphasis on current treatment and complex metabolic abnormalities. Prerequisite: 470.

472-1 to 6 Applied Nutrition Therapy. Application of nutrition principles to the management of patients with altered physiological and biochemical states. Off-campus experience may be required. Prerequisite: 471 or concurrent enrollment in 471 and consent of instructor.

480-3 Community Nutrition. Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in communities' health programs. Integration of nutrition into the health care delivery system at local, state, and federal levels is included.

490-3 Nutrition and Growth. The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. A general review of basic nutrition is included. Prerequisite: consent of instructor and department chairperson.

Foreign Language and International Trade (Major)

The foreign language and international trade major, leading to the Bachelor of Arts degree in the College of Liberal Arts, will combine education in the liberal arts with preparation for careers in the international business community as well as in government service. It is designed to combine skill in a foreign language and a fundamental understanding of international commerce. This is accomplished by a curriculum of studies which has two cores—one in language and one in international trade and related subject matters. For both cores only courses completed with a grade of *C* or better will be counted toward the major. This cross-disciplinary program allows for choice of language as well as some options in electives so that different interests may be accommodated and individual goals may be realized. Prior to completion of the program, application and expansion of the knowledge and skills gained by the student through study is provided by an internship. No courses completed with a grade below *C* will be counted toward fulfillment of the requirements for a major.

Students wishing to enter the program should consult the program director in the Department of Foreign Languages and Literatures in order to design an appropriate course of studies.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
Including GEB 202 and 250; Economics 214 or 215 to substitute for GEB 211; Mathematics 139 to substitute for GED 107; 4 hours of for- eign language to substitute for GEC	
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(7) + 7
<i>Requirements for Major in Foreign Language and International Trade</i>	60-67
Courses in a Language (Chinese, French, German, Japanese, Russian or Spanish).....	
As prescribed by the program director; must include internship, Foreign Language 495	
Business Related Courses	30
Accounting 220, 230	6
Computer Science 212 or Computer Information Processing 229	3
Economics 214, 215, 329.....	(3) + 6
Finance 330	3
Management 208 and either Management 304 or Political Science 441.....	6
Marketing 304, 435.....	6
Mathematics 139.....	(3)
<i>Electives</i>	0-7
Recommended: East Asia 370; Finance 341, 464; Food and Nutrition 360a, 360b, 372, 373; Geography 362, 364, 366; History 339, 370, 380a, 432, 433, 436, 437, 471, 473, 474, 476, 480, 484; Management 202; Mar- keting 305, 336, 363, 390, 438; Philosophy 313, 314, 378; Political Sci- ence 371, 383, 458, 459, 463, 466, 485, 488; Religious Studies 334; Sociology 330;	
<i>Total</i>	120

Foreign Languages and Literatures (Department, Majors,
Courses)

Majors and minors are offered in classics (minor: classical civilization), French, German, Russian, and Spanish. Minors are also offered in Chinese, classical civilization, classical Greek, East Asian civilization, Japanese, and Latin. A student majoring in a foreign language who has taken four years of that language in high school is expected to begin with 300-level courses and to take more upper level courses. Transfer students planning to major in a foreign language must complete a minimum of 12 semester hours of courses in that language at Southern Illinois University at Carbondale. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a major. For modern foreign languages, both oral and written language competency must be demonstrated in separate examinations. Students should plan to take these exams no later than two semesters prior to graduation so there is time to make up possible deficiencies before graduation. For students preparing to teach in the public schools, the oral and written competency examinations must be passed before student teaching is begun. Every foreign language major must have a departmental advance registration form, signed by the appropriate adviser in the department, before proceeding to college advisement and registration.

Bachelor of Arts Degree, College of Liberal Arts

(WITHOUT SECONDARY SCHOOL TEACHING CERTIFICATE)

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i> (4) + 8-14	
Though not required, a minor of at least 15 hours is recommended.	
This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
See the Spanish description for a major program which combines a Spanish major with a minor in secretarial and office specialties.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level.	
<i>Electives</i>	24-30
<i>Total</i>	120

¹See individual language listings for specific requirements.**Bachelor of Arts Degree, College of Liberal Arts**

(WITH SECONDARY SCHOOL TEACHING CERTIFICATION)

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i> (4) + 8-14	
Though not required, a minor of at least 15 hours is recommended.	
This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level. Foreign Languages 436 will be one of those courses required on the 400-level for majors in French, German, and Spanish.	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Electives</i>	0-5
<i>Total</i>	120-121

¹See individual language listings for specific requirements.**Bachelor of Science Degree, College of Education**

For College of Education students majoring in a foreign language, the scheduling of those classes which apply to the major must be done with the appropriate adviser from the Department of Foreign Languages and Literatures.

<i>General Education Requirements</i>	46 ²
Must include GEB 114, 202, and 301; GEC 213; GED 101 and 102; GED 152 or 153	
<i>Requirements for Major in Foreign Language</i>	36 ¹
100-level courses will not count toward the major and at least 12 hours	

¹See individual language listings for specific requirements.²See catalog section titled Curriculum and Instruction for specific certification requirements.

must be in courses on the 400-level. Foreign Languages 436 will be one of those courses required on the 400-level for majors in French, German, and Spanish.

Professional Education Requirements	25
See Teacher Education Program, Chapter 3.	
Electives	13
Total	120

Placement. The student who has completed only one year of foreign language in high school normally begins with the first semester course. The student who has successfully completed two years of study in high school of any language currently taught in the department may begin with the second year level without having to take the placement proficiency examination. Those students who have successfully completed three or more years of high school language should consult the departmental adviser for that language.

Minor

A minor in a foreign language is constituted by 18 hours in courses above the first-year level. See individual language listings for specific requirements. State certification requirements, in terms of total semester hours of subject matter courses, may be met in part by counting first-year foreign language courses or by doing additional advanced work.

A minor in classical civilization or East Asian civilizations is constituted by 15 hours of courses to be selected in consultation with the appropriate sectional adviser.

Secondary Concentration for Majors in the College of Business and Administration

The Department of Foreign Languages and Literatures participates with the College of Business and Administration's major program in business and administration by offering a secondary concentration of 20-23 hours for those students who wish to formulate an academic program leading to a career specialization which combines business and a foreign language.

The secondary concentration varies according to the language chosen, but does not normally exceed 23 hours and involves course work from the 100 through the 400 levels. For specific course requirements in the respective languages, interested students should contact advisers in the Department of Foreign Languages and Literatures.

GENERAL FOREIGN LANGUAGE COURSES

Courses

- 199-3 to 27 (3 per topic) Self Instructional Language.** A passive skills (listening and reading) self-instructional program in (a) Italian, (b) Korean, (c) Portuguese, (d) Chinese, (e) French, (f) German, (g) Japanese, (h) Russian, and (i) Spanish. Unsupervised language study using language laboratory facilities and designated text materials. Completion of this course does not include speaking and writing skills and thus does not fulfill college language requirements. Credit granted upon successful completion of examination. Mandatory Pass/Fail.
- 300-3 to 6 (3, 3) Masterpieces of World Literature.** Readings from and discussions of both Western and Eastern literatures, taken from ancient to modern times. Occasional guest lectures by faculty of the department, who speak on their areas of special interest. All readings and lectures in English.
- 436-3 Methods in Teaching Foreign Languages.** Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish.

475A-12 to 34 Full Year Abroad in Austria. Two semesters at the Padagogische Akademie at Baden and at various institutions of higher learning in Vienna. All courses are taught in German. Students may obtain 30 to 34 semester hours of credit in German language, literature and civilization and with prior approval in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, and sociology. Not for graduate credit. Prerequisite: 5 semesters of college German or equivalent with a 3.0 grade point average.

495-3 to 12 (3 to 6, 3 to 6) Internship. Provides structure within which previous studies can be given practical application normally in a foreign setting. Placement is arranged through the department, while supervision is provided at the internship site. Not for graduate credit. Prerequisite: junior standing and prior approval by the department; approval requires attainment of an accepted level of language competency.

CHINESE (Minor, Courses)

Minor

Chinese courses above 100 level	18
200 level: 201a,b	8
300 level or 400 level	10

Courses

120-8 (4, 4) Elementary Chinese. Standard (Mandarin) Chinese. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Chinese required. Must be taken in a,b sequence.

201-8 (4, 4) Intermediate Chinese. Standard (Mandarin) Chinese. Development of listening, speaking, reading, and writing on the intermediate level. Must be taken in a,b sequence. Prerequisite: 120b or equivalent.

305-2 to 4 (2, 2) Individualized Language Study. Designed to improve language skills beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

320-8 (4, 4) Advanced Chinese. Standard (Mandarin) Chinese. Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Chinese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

370-3 Contemporary China. A study of customs, habits, beliefs and traditions operating in China today. Taught in English. Prerequisite: GEC 213 or consent of instructor.

390-1 to 6 Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or introduction to linguistics.

435-3 Business Chinese. An overview of China's business through reading in Chinese dealing with the major aspects of China's foreign trade ranging from broad principles and policies to concrete details of operation and procedure. Enhancement of conversational skills for business contexts. Prerequisite: 320 or equivalent.

490-1 to 6 Advanced Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

CLASSICS (Major, Minors [Greek, Latin, Classical Civilization], Courses)

Bachelor of Arts Degree, College of Liberal Arts

Classics courses and courses from participating departments	36
Original Greek and Latin courses, two years of one language or one year of each.	12-16
Electives: additional courses in Greek, Latin, or classical civilization (225, 270, 271, 310, 332, 405, 406, 496) ¹ ; Classics 396; GEC 230, 330; courses from participating departments (limited to 12 hours): Anthropology 304; Art 307; History 310, 313; Philosophy 304, 470, 471; Political Science 404	20-24

Minor in Greek

Greek courses above 100-level 18

Minor in Latin

Latin courses above 100-level (388 and 488 may not be counted);
320 recommended..... 18

Minor in Classical Civilization

Courses to be selected in consultation with adviser from Greek, Latin,
or classical civilization (225, 270, 271, 310, 332, 405, 406, 496)¹;
courses also recommended: GEC 230, 330 and either Classics 100 or
101 15

¹Classical civilization includes all classics courses above the 100-level for which no knowledge of Greek or Latin is required.

Courses

- 100-2 Greek and Latin in English.** Vocabulary building through roots, prefixes, and suffixes. Recommended for students interested in the origin of English words. No knowledge of Greek or Latin is required.
- 101-3 Scientific Terminology: Greek and Latin Derivatives.** Analysis of common vocabulary and of basic scientific terminology into its component prefixes, roots, and suffixes. The course concentrates on methods for recognizing and understanding polysyllabic technical terms. No prerequisite required. No knowledge of Greek or Latin is required.
- 130-8 (4, 4) Elementary Classical Greek.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Ancient Greek in order to enable them to progress to the reading of the Greek classics and New Testament. Must be taken in a,b sequence. No previous knowledge of Greek required.
- 133-8 (4, 4) Elementary Latin.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Latin in order to enable them to progress to the reading of the Latin classics. No previous knowledge of Latin required. Must be taken in a,b sequence.
- 201-6 (3, 3) Intermediate Greek.** Reading and interpretation of selected works by authors such as Xenophon, Plato, Homer, and the New Testament writers. Must be taken in a,b sequence. Prerequisite: 130 or equivalent.
- 202-6 (3, 3) Intermediate Latin.** Reading from authors such as Livy, Caesar, and Cicero. Must be taken in a,b sequence. Prerequisite: 133 or two years of high school Latin or equivalent.
- 225-3 Athletics, Sports, and Games in the Ancient World.** The Olympics and other great games of ancient Greece; games and sporting events of ancient Rome; differences between ancient and modern attitudes about "sport" and sports. No knowledge of Greek or Latin is required.
- 270-3 Greek Civilization.** An introduction to the life and culture of ancient Greece. Greek contributions to western civilization in literature, art, history, and philosophy. No knowledge of Greek or Latin is required.
- 271-3 Roman Civilization.** An introduction to the life and culture of ancient Rome. Rome's function in assimilating, transforming, and passing on the Greek literary and intellectual achievements. Rome's own contributions in the political, social, and cultural spheres. No knowledge of Greek or Latin is required.
- 310-3 Ancient Art and Archaeology.** Survey of the physical remains of ancient civilizations of the Aegean and Mediterranean areas. Special attention to the artistic and architectural achievements of the Greeks and Romans. Occasionally offered overseas. No knowledge of Greek or Latin is required.
- 320-3 Latin Composition.** The object of this course is to understand and appreciate the structure and style of Latin through composition. Prerequisite: 202 or equivalent.
- 332-3 Classical Drama.** Reading several tragedies and comedies of the Greeks and Romans both with a view to enjoying them as timeless works of art and with a view to understanding how they grew out of the societies of classical Greece and Rome. No knowledge of Greek or Latin is required.
- 380-2 to 4 Greek Prose Authors in Greek.** Reading of Greek prose. Selections from the historians (Herodotus, Thucydides), orators (Lysias, Demosthenes, et al.) philosophers (Plato, Aristotle), or epistles of the New Testament. Prerequisite: 201 or equivalent.
- 381-3 Homeric Epic in Greek.** Reading and interpretation of selections from the *Iliad* or the *Odyssey*. Homeric grammar and metrics, epic diction, the conventions of oral poetry. Prerequisite: 201 or equivalent.
- 382-3 Greek Drama in Greek.** Reading and interpretation of selections from the works of the classical Greek dramatists: Aeschylus, Sophocles, Euripides, and Aristophanes. Stage conventions of the Attic theater. Prerequisite: 201 or equivalent.

383-3 Early Greek Lyric in Greek. Reading and interpretation of poets of the Archaic Age such as Alcaeus, Sappho, and Pindar. Socio-political background, dialects, meters. Prerequisite: 201 or equivalent.

384-3 Roman Philosophy in Latin. Selections from Cicero, Lucretius, and Seneca the Younger. Recommended for students with double majors in philosophy and classics. Prerequisite: 202 or equivalent.

385-3 Medieval Latin. Selected readings from Latin authors of the Middle Ages. Prerequisite: 202b or equivalent.

386-3 Roman Historians in Latin. Selections from Caesar, Sallust, Livy, Tacitus, and Suetonius. Recommended for students with double majors in history and classics. Prerequisite: 202 or equivalent.

387-3 Vergil in Latin. Selections from Vergil's major works, the *Aeneid*, *Eclogues*, etc. Prerequisite: 202 or equivalent.

388-3 Latin as a Research Tool. Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

389-3 Myth, Fable, and Story in Latin. Selections from works such as the *Metamorphoses* of Ovid, the *Fables* of Phaedrus, and *Satyricon* of Petronius. Prerequisite: 202 or equivalent.

390-3 Roman Comedy in Latin. Reading and interpretation of selections from play(s) by Plautus and Terence. Prerequisite: 202 or equivalent.

391-3 Lyric and Satire in Latin. Reading and interpretation of works by poets such as Catullus, Horace, Juvenal, and Persius. Study of either the lyric or satiric genre. Prerequisite: 202 or equivalent.

396-3 Honors in Classics. Readings of classical literature, in Greek or Latin or English translation, for junior or senior majors. The course requires preparation of an honors paper or comparable project, and satisfies one of the requirements for graduation with honors in classics. Prerequisite: 3.75 grade average in classics courses and consent of classics faculty.

405-2 Greek Literature in Translation. (Same as Women's Studies 463.) Reading and analysis of selected classical Greek author(s), genre(s), theme(s), such as the role of woman, the social life of the ancient Greeks, etc. Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required.

406-2 Latin Literature in Translation. Reading and analysis of selected Roman author(s), genre(s), theme(s). Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required.

415-1 to 9 (1 to 3 per topic) Readings from Greek Authors in Greek. Reading and interpretation of works of Greek literature at an advanced level. Prerequisite: two semesters of 300-level Greek or consent of instructor.

416-1 to 9 (1 to 3 per topic) Readings from Latin Authors in Latin. Reading and interpretation of works of Latin literature at an advanced level. Prerequisite: two semesters of 300-level Latin or consent of instructor.

488-3 Advanced Latin as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Latin or equivalent.

496-2 to 8 Independent Study in Classics Program. Guided research on problems in classics. The academic work may be done on campus or in conjunction with approved off-campus activities. Not for graduate credit. Prerequisite: consent of instructor.

EAST ASIA (Courses)

300-3 Masterpieces of Oriental Literatures. Lectures and collateral readings of representative oriental literary works in English translation with special attention to literary forms and thought from ancient to contemporary China and Japan. No knowledge of an oriental language required.

370-1 to 6 (1 to 3 per topic) Topics in East Asian Cultural Traditions. Selected topics in East Asian cultural traditions. May be repeated to a total of six hours with the consent of the department. No prerequisite. Taught in English.

EAST ASIAN CIVILIZATION (Minor)

Minor

Courses in Chinese and Japanese selected in consultation with adviser ... 15¹

FRENCH (Major, Minor, Courses)

Bachelor of Arts Degree, College of Liberal Arts

French courses above 100 level	36
200 level: 201a,b (220 recommended; does not usually count toward major or minor)	8
300 level: 320, plus any combination of 300 level courses	14
400 level: any combination of 400 level courses	14
(At least one literature course must be taken at either the 300 or the 400 level.)	

Bachelor of Science Degree, College of Education, or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

French courses above 100 level	36
200 level: 201 a,b (220 recommended; does not usually count toward major or minor)	8 ¹
300 level: 320, plus any combination of 300 level courses	14
400 level: Foreign Languages 436, plus any combination of 400 level courses	14
(At least one literature course must be taken at either the 300 or the 400 level.)	

Minor

French courses above 100 level	18
200 level: 201a,b.	8 ¹
300 level: 320, plus any combination of 300 level courses	10

¹With the approval of the French section, one semester of 220 may be counted toward the major or minor, in which case the 300 or 400-level requirements would be reduced by 2 hours for a major or minor.

Courses

- 123-8 (4, 4) Elementary French.** The basic skills of listening, speaking, reading, and writing. No previous knowledge of French is required. Must be taken in a,b sequence.
- 124-2 Elementary French Conversation.** Conversation skills for beginners. Special emphasis on tourist vocabulary. Prerequisite: concurrent enrollment in 123B or consent of instructor.
- 190-5 Review of Elementary French.** A review course on first year level for students who have had two or more years of high school French or equivalent.
- 201-8 (4, 4) Intermediate French.** Grammar review, translation, oral practice, written composition, and development of reading skills. Reading of material on contemporary France and selections from French literature. Prerequisite: 123, 190, or two years of high school French, or equivalent.
- 220-2 to 4 (2, 2) Intermediate French Conversation.** Development of oral skills on the intermediate level. Not usually accepted toward major requirement. Prerequisite: 123b or 190 or equivalent.
- 300-3 Image of Women in French Literature.** (Same as Womens Studies 352.) Female characters as they are represented in French literature through the centuries; the development of a psychological and sociological point of view of women through the examination of women's roles in French literature. Conducted in English. Counted toward major only with consent of adviser.
- 310-4 Development of French Literature from the Middle Ages Through the Eighteenth Century.** Major literary movements and authors as exemplified in representative works.
- 311-3 Modern French Literature.** The themes, structures, and language of some major works of poets, novelists, and playwrights from the early Romantics through the Existentialists and Robbe-Grillet.
- 320-6 (3,3) Advanced Language Skills.** A review of grammar and syntax with extensive practice in translation and composition. Reading of French texts as basis for discussion and papers. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.
- 321-3 Advanced Conversation.** Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms emphasized through classroom and language laboratory work. Highly recommended for those students with a major in French. Prerequisite: 201b.
- 330-3 Introduction to Literary Analysis.** Examination of the basic elements of literary expression; practice of rudimentary *explications de textes*. Selections for study are taken from important

works of French literature and analyses are directed toward developing the students' artistic sensibilities as well as improving their analytical skills.

335-3 Business French. An overview of cultural, economic, and commercial France. Study through readings and discussions of the following topics: government, agriculture, industry, and commerce; Common Market and foreign trade, financial institutions and taxation, social classes, and the world of work. France as a society of consumption. Translations and some commercial correspondence. Prerequisite: 320a or equivalent.

350-2 French Phonetics. Introduction to French phonemics and phonetics involving production of French sounds and English interference. Emphasis on corrective pronunciation.

370-3 Modern France. The main philosophical, political, and artistic trends within the nineteenth and twentieth centuries which have contributed to the formation of present day France. Prerequisite: 320a or 321.

375-1 to 6 Travel-Study in France. Travel-Study project, planned under supervision of French faculty and carried out in France. Prerequisite: 201b, and consent of faculty.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

390-1 to 6 Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language, or culture. Prerequisite: consent of instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite 320a.

411-3 Linguistic Structure of French. (Same as Linguistics 413.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320a and 321 or equivalent.

412-4 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required.

414-3 Translation Techniques. Practice in oral translation — simultaneous and subsequent; written translation practice, from and into French, of materials from sources varying from technical, commercial, political, to general interest. Advanced grammar and syntax review as they relate to translation, with practice through exercises and translation. Prerequisite: 320a or equivalent.

415-3 Literary Stylistics. A study of the aesthetics and theory of French Literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods.

419-3 Romance Philology. (Same as Spanish 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers.

435-3 Business French II. Detailed treatment of postal facilities and services, types of banks and their operations, transport of goods, import-export, bills of exchange, billing and shipping, insurance, accounting, and the stock market. These topics will be the subject of translations and of commercial correspondence. Prerequisite: 320a or equivalent, may be taken independently of 335.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writing of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques, and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett.

470-3 Backgrounds of French Civilization. A study of the events, figures, and movements in France which have influenced its culture and civilization.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320a or equivalent.

476-3 to 6 (3, 3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a

significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320a, 321 and consent of instructor.

GERMAN (Major, Minor, Courses)

At least one course in the history of Germany or Central Europe is recommended for all students majoring in German. Credit must be earned in at least one regularly scheduled 400-level course taken on the Southern Illinois University at Carbondale campus.

Bachelor of Arts Degree, College of Liberal Arts

Courses above 100 level	36
200 level: 201a,b (201c recommended)	8-11
300 level: 320-6, plus any combination of 300-level courses	10-13
400 level: Any combination of 400 level courses	12
German electives (300 or 400 level)	3
(At least one literature course must be taken at either the 300 or the 400 level.)	

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Courses above 100 level	36
200 level: 201 a,b (201c recommended)	8-11
300 level: 320-6, plus any combination of 300-level courses	10-13
400 level: Foreign Languages 436, plus any combination of 400 level courses	12
German electives (300 or 400 level)	3
(At least one literature course must be taken at either the 300 or the 400 level.)	

Minor

Courses above 100 level	18
200 level: 201a,b (201c recommended)	8-11
300 level: 320a,b	7
German electives (300 or 400 level including at least one regularly scheduled course)	1-3

Courses

126-8 (4, 4) Elementary German. The course emphasizes German culture as it is expressed in the language. It concentrates on the four language skills of understanding, speaking, reading, and writing. No previous knowledge of German required. Must be taken in a,b sequence. Purchase of a workbook is required.

201-8 (4, 4) Intermediate German. Intensification of the four basic language skills. Study of the culture and everyday living situations in the German-speaking countries. Must be taken in a,b sequence. Prerequisite: 126b or equivalent.

201C-6 (3, 3) German Language Workshop. This intensive (15 days), total-immersion (exclusively in German) program combines formal classwork with informal seminars, group activities (folk singing, skits, play readings, films, talent shows, etc.) and individual assignments (daily compositions, diaries). May be repeated once but only three hours will count toward major or minor. Prerequisite: 201b or consent of instructor.

202-2 (1, 1) Intermediate German Conversation. Designed to improve the student's speaking ability through use of modern media. Must be taken in a,b sequence or as companion course to 201a or b or with consent of instructor. Prerequisite: 126b or equivalent.

320-7 (4, 3) Advanced Composition and Conversation. Devoted to increasing the student's command of German. Intensive practice in oral and written composition. Beginning with rather controlled subject matter and progressing to a wider choice of topics. Conducted primarily in German. To be taken in sequence. Required for majors. Prerequisite: 201b or consent of instructor.

330-3 Introduction to German Literature. Survey of masterpieces of German literature including works from various genres and from the major periods of German literary history. Student projects will include demonstration of various techniques of literary criticism. Course is taught primarily in German. Prerequisite: 201b or equivalent.

335-3 Survey of German Literature. A survey of German literature from its beginning in the early Middle Ages to the present. Focusing on the major periods, authors, and works of German literature, this course will provide the students with an initial encounter with literature in an historical context and help train them to read both extensively and intensively.

370-3 Contemporary Germany. Study of life in Germany since World War II including the customs and habits, thoughts and beliefs, as well as the broad complex of traditions basic to everyday life. Readings include literary and journalistic materials as well as written and filmed documentaries. Taught primarily in German. Prerequisite: 201b or equivalent or consent of instructor.

371-3 Cultural History of Germany. An overview of geographic facts and the intertwining economic, political, social, and cultural developments in the German-speaking countries from the time of the Germanic tribes to the present. Taught primarily in German. Prerequisite: 201b or equivalent.

380-3 Modern German Prose. Introduction to outstanding German prose literature of the 19th and 20th centuries. Attention to historical and social backgrounds. Extensive readings supplemented by lectures and discussions. Conducted in German. Prerequisite: 201b or equivalent.

390-1 to 3 Directed Language Learning Activity. Special projects such as translation practicum, German play production, German newsletter, instructional assistance, special presentations, or internship in a business firm in Germany. May count as the fifth semester required for Foreign Languages 475a. Prerequisite: consent of instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of written and spoken language through translations and free compositions. Prerequisite: 320b or equivalent.

411-3 Linguistic Structure of Modern German. The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

412-3 History of the German Language. The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

435-3 Business German. An overview of West German business, presented through lectures, readings, and discussions. Course work with textbook and supplementary materials will focus on the major aspects of German business. Exercises will include vocabulary building, listening and reading comprehension, oral and written summarization, role playing in typical situations, mock telephone conversations, and business correspondence. Prerequisite: 320 or consent of instructor.

440-3 Studies in Early German Literature. The literature of the German-speaking countries from the early Middle Ages through the seventeenth century, with varying emphasis on authors, themes, genres, periods. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

450-3 Studies in 18th Century Literature. Examination of the major writers and movements with their social, historical, and intellectual background during the 18th century in Germany and Austria. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

455-3 Studies in 19th Century Literature. Detailed focus on specific aspects rather than a general survey of 19th century literature, e.g., major periods and movements, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

480-3 Studies in 20th Century Literature. Detailed focus on specific aspects rather than a general survey of 20th century literature, e.g., major periods, movements, and tendencies, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

488-3 Advanced German as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for reading and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: Passing of CLEP test in German; or one year of college-level German; or consent of instructor (as determined by examination).

490-1 to 6 (1 to 3, 1 to 3) Independent Study in German. Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor.

GREEK (Minor, Courses)

(SEE CLASSICS)

JAPANESE (Minor, Courses)

Minor

Japanese courses above 100 level	18
200 level: 201a,b	8
300 level or 400 level	10

Courses

131-8 (4, 4) Elementary Japanese. Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Japanese is required. Must be taken in a,b sequence.

201-8 (4, 4) Intermediate Japanese. Development of listening, speaking, reading, and writing skills on the intermediate level. Must be taken in a,b sequence. Prerequisite: 131b or equivalent.

305-2 to 4 (2, 2) Individualized Language Study. Designed to improve language skill beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

320-8 (4, 4) Advanced Japanese. Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Japanese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

370-3 Contemporary Japan. A study of customs, habits, beliefs, values and etiquette in Japanese culture. Instruction in English. Prerequisite: GEC 213 or consent of instructor.

390-1 to 6 Independent Study in Japanese. Directed individual study of some question, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

410-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Phonology and syntax of the Standard Japanese. Special emphasis on the contrastive analysis between Japanese and English. Typological similarities and lexical borrowings between Chinese and Japanese. Prerequisite: one year of Japanese or introduction to linguistics.

435-3 Business Japanese. An introduction to the language and culture of the Japanese business world and to the structure of the Japanese business economy. The emphasis will be on learning appropriate levels of formality and politeness in oral communication and on achieving competency in the specialized language of business. Prerequisite: 320 or equivalent.

490-1 to 6 Advanced Independent Study in Japanese. Directed individual study of some questions, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

LATIN (Minor, Courses)

(SEE CLASSICS)

PORTUGUESE (Courses)

175-5 First-Year Portuguese. First year Portuguese in one semester. The basic skills of listening, speaking, reading, and writing. Not open to native Portuguese speakers without permission of Spanish section.

RUSSIAN (Major, Minor, Courses)

Bachelor of Arts Degree, College of Liberal Arts

Russian courses above 100 level	36
200 level: 201a,b	8

300 level: Any combination of 300 level courses	12
400 level: Any combination of 400 level courses including at least one literature course.	12
Russian electives (300 or 400 level).	4

Minor

Russian courses above 100 level	18
200 level: 201a,b	8
300 level: Any combination of 300 or some 400 level courses	10

Courses

136-8 (4, 4) Elementary Russian. Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Russian required. Must be taken in a,b sequence.

201-8 (4, 4) Intermediate Russian. Continuation of the language structure with practice in oral and written Russian. Must be taken in a,b sequence. Prerequisite: 136 or two years of high school Russian or equivalent.

220-4 (2, 2) Intermediate Russian Conversation. Practice of oral skills on the intermediate level. May be taken as companion course to 201a,b or with consent of instructor. Prerequisite: 136b or equivalent.

305-4 Advanced Conversation and Composition. Improvement of self-expression, oral and written comprehension, free composition and conversation; readings based on the history of Russia, as well as readings of magazine and newspaper articles. Prerequisite: 201 or equivalent.

306-3 Intermediate Readings in Russian. Designed to improve skills in reading selections from Russian prose. Prerequisite: 201 or equivalent.

320-3 Advanced Language Skills. A review of fine points of grammar and polishing of student's syntax. Prerequisite: 201 or equivalent.

330-4 Introduction to Russian Literature. Reading and analysis of the texts selected from Russian literature.

350-3 Russian Phonetics. Analysis of the sounds of Russian and their manner of production; intonation and stress; levels of speech, oral practice. Prerequisite: 201b.

375-3 to 6 Travel Study in USSR. Supervised travel-study program in the USSR. Prerequisite: 201 or equivalent.

388-3 Russian as a Research Tool. Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

411-3 Russian Stylistics. Writing styles in Russian and its application to the development of skill in written expression.

415-3 Russian Linguistic Structure. Structural analysis of present-day Russian with special attention to morphology and syntax.

430-4 Business Russian. A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent.

465-3 Soviet Russian Literature. Major fiction writers and literary trends since 1917. Lectures, readings, and reports.

470-3 Soviet Civilization. Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite: May count toward Russian major with consent of graduate adviser.

475-2 to 3 Travel-Study in USSR. Specialized course comprising part of the travel-study program in the Union of Soviet Socialist Republics. Prerequisite: 201 or equivalent.

480-4 Russian Realism. Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports.

485-3 Russian Poetry. A study of literary trends and representative works of Russian poets.

488-3 Advanced Russian as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

490-1 to 3 Independent Study. Directed independent study in a selected area. Prerequisite: consent of the Russian section head.

SPANISH (Major, Minor, Courses)**Bachelor of Arts Degree, College of Liberal Arts**

Spanish courses above 100 level	36
200 level: 201a,b or 275.....	5-6
300 and 400 levels: 306, 320, and 415, plus any combination of 300 or 400 level courses which includes a literature course and at least nine additional 400 level hours	26-27
Spanish electives (only one semester of 220 may be counted toward the major).....	4

Bachelor of Arts Degree, College of Liberal Arts (with a minor in secretarial and office specialties, for bilingual secretaries)

Spanish courses above 100 level	36
200 level: 201a,b or 275.....	5-6
300 and 400 levels: 306, 320, and 412, plus any combination of 300 or 400 level courses which includes at least nine additional 400 level hours	24-25
Spanish electives (only one semester of 220 may be counted toward the major).....	6
See secretarial and office specialties for a description of minor requirements.	

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Spanish courses listed above 100 level	36
200 level: 201a,b or 275.....	5-6
300 and 400 levels: 306, 320, 415, Foreign Languages 436, plus any combination of 300 or 400 level courses which includes a literature course and at least six additional 400 level hours....	26-27
Spanish electives (only one semester of 220 may be counted toward the major).....	4

Minor

Spanish courses above 100 level	18
200 level: 201a,b or 275.....	5-6
300 level: 306 and 320.....	7
Spanish electives (only one semester of 220 may be counted toward the minor).....	5-6

Courses

140-8 (4, 4) First-Year Spanish. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Spanish required. Must be taken in a,b sequence. Not open to native speakers of Spanish without permission of the Spanish section.

141-2 Elementary Spanish Conversation. Conversation skills for beginners. Emphasis on everyday situations. Cannot be taken to satisfy language requirement. Not open to native Spanish speakers. Is not a companion course for 140a,b or 175. Prerequisite: 140a or equivalent.

157-8 (4, 4) Individualized Instruction. Teacher-assisted, mastery-based, self-paced instruction in Spanish. Basic skills of listening, speaking, reading, and writing are learned. Parallel in scope and credit to regular basic skills courses. Not open to native speakers.

175-5 Business Spanish: First Year. First-year Spanish covered in one semester. The basic skills of listening, speaking, reading, and writing using business Spanish vocabulary. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: one year of high school Spanish or equivalent or special permission of instructor.

201-6 (3, 3) Second-Year Spanish. Continuation of grammar and composition. Exercises in language laboratory. Selected readings, with special attention to the role of Hispanic culture in world civilization. Must be taken in a,b sequence. Not open to native speakers of Spanish without per-

- mission of the Spanish section. Prerequisite: 140b or 175 or two years of high-school Spanish or equivalent.
- 220-4 (2, 2) Spanish Conversation.** Practice in spoken Spanish. Prepared and impromptu group discussions on general topics and everyday situations. Frequent short talks by students. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 140b or 175 or two years of high-school Spanish.
- 273-2 Study in Spain or Latin America.** Course taught as part of the summer study abroad program. Prerequisite: one year of college Spanish, or the equivalent.
- 275-3 Second-Year Spanish: Business Course.** A one-semester course using a business and commerce vocabulary which can be taken in lieu of the Spanish 201a,b sequence. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 175 or 140a,b or equivalent.
- 305-2 to 4 (2, 2) Advanced Conversation.** Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms in Spanish. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 201b or 275 and 220.
- 306-3 Intermediate Readings in Spanish.** Designed to improve reading skills in Spanish. Not open to native speakers of Spanish without permission of the Spanish section. Prerequisite: 201b or 275 or equivalent.
- 310-3 Spanish Literature 1700-1900.** The literature of Spain in the periods of Neoclassicism, Romanticism, and Realism. Prerequisite: 306.
- 315-3 Spanish American Literature.** Literature in Spanish America during the 19th and 20th centuries. Prerequisite: 306.
- 320-4 Third-Year Grammar and Composition.** Extensive practice in translation and composition; special attention to grammar problems, idiomatic expressions, and syntactical features. Prerequisite: 201b, 275, or equivalent.
- 370-3 Spanish Culture and Civilization.** The cultural patterns and heritage of the Spanish people from earliest times to the present. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 210b or 275 or equivalent.
- 371-3 Spanish-American Culture and Civilization.** A survey of the cultural heritage of the Spanish-American peoples. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b, 275, or equivalent.
- 388-3 Spanish as a Research Tool.** Intensive study of Spanish as a basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.
- 390-1 to 6 Independent Study in Spanish.** Individual exploration of some question, author, or theme of significance within the field of Spanish literature, language, or culture. Prerequisite: consent of instructor.
- 410-3 Advanced Language Study.** Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. Prerequisite: 320.
- 411-3 Linguistic Structure of Spanish.** Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.
- 412-3 History of the Spanish Language.** Survey of internal and external history, from Vulgar Latin to Modern Spanish.
- 419-3 Romance Philology.** (Same as French 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.
- 425-3 Spanish Literature Before 1700.** The literature of Spain from its beginnings in the Middle Ages through the Golden Age.
- 430-3 The Golden Age: Drama.** Plays of Lope de Vega, Calderon, Tirso de Molina, and others.
- 431-3 Cervantes. *Don Quixote*.**
- 434-3 Colonial Literature in Spanish America.** Study of the literature of Spanish America before 1825.
- 435-3 Business Spanish.** Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320.
- 460-3 Spanish Literature of the 20th Century.** The main currents and outstanding works in the literature of Spain since 1900.
- 463-3 Chicano Literature.** An introduction to the literature written in the United States by Chicanos and other Hispanics.
- 485-3 The Spanish American Short Story.** Survey of the genre in Spanish America.
- 486-3 Spanish American Drama.** A survey of the development of the genre from the earliest times to the present.
- 487-3 The Spanish American Novel.** Survey of the genre in Spanish America.
- 488-3 Advanced Spanish as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic

acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of *B* or *A*, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Spanish or equivalent.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

Forestry (Department, Major, Courses)

Three specializations are offered within the major in forestry: forest resources management, outdoor recreation resources management and forest science. General Education requirements and a core of professional courses are similar for most specializations. Courses specifically required in the various specializations may not be taken for pass/fail credit by students majoring in the Department of Forestry. The forest resources management and outdoor recreation resources management specializations are accredited by the Society of American Foresters.

Available to the Department of Forestry for teaching and research in addition to resources present on campus are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; a number of state parks and state forests; conservation areas and federal reservoirs. Collectively, these comprise more than a million acres of forest land, all in the vicinity of the University. Also accessible for forest products utilization teaching and research is a wood products plant located near the campus. Scientists with the U.S. Forest Service are affiliated with the Department of Forestry, and participate in the educational activities of the department.

The curricula of the Department of Forestry prepare graduates for employment with local, state and federal natural resource agencies, as well as private industry. In addition, many graduates continue their education in advanced masters and doctoral programs. Federal agencies employing our graduates include the Forest Service, Soil Conservation Service, Fish and Wildlife Service, National Park Service, Bureau of Reclamation, Bureau of Land Management, Environmental Protection Agency, Tennessee Valley Authority, and the Army Corps of Engineers. There are also employment opportunities in state government with agencies such as fish and game commissions, departments of natural resources and conservation, and forest services. At the local level, there are opportunities with urban forest and park systems. Private agencies have included Ducks Unlimited, the Nature Conservancy, the National Audubon Society and the American Forestry Association. Forestry graduates often are employed by private forestry consulting firms and by private industries such as Scott Paper Co., Weyerhaeuser Co., International Paper Co., Georgia Pacific Corporation and Westvaco.

Bachelor of Science Degree, College of Agriculture

FORESTRY MAJOR – FOREST RESOURCES MANAGEMENT SPECIALIZATION

The program in forest resources management includes instruction leading to careers in forest management and production, multiple-use resource management, and the forest products industries. The specialization includes areas of study recommended and accredited by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week summer camp is required after the junior year to give the student practical field experience. Field study costs per student for off-campus living expenses and transportation are approximately \$150 per student

and must be borne by the student. Other costs for equipment and supplies which are required for field study and certain other courses are specified in course descriptions.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Forestry with Forest Resources Management</i>	
<i>Specialization</i>	84
Forestry Core 200, 201, 202a, 202b, 310, 311, 315, 331, 351, 409, 410, 411, 314, or Botany 357	35
Biology 307; Botany 200; Chemistry 140a,b; GEA 118	(12) ¹ + 7
Agribusiness Economics 204 or Economics 215, Agricultural Education and Mechanization 371, 374	(3) ¹ + 4
GED 101, 102, 153; Mathematics 140, 283	(12) ¹ + 4
Five-week early summer field studies: Forestry 310C, 314C, 320C, 351C	6
Forestry 412, 416	5
Plant and Soil Science 240	4
Two courses selected from Forestry 320, 350, 405, 460	4-5
Two courses selected from Forestry 313, 402, 420, 430	6
Restricted electives	8-9 ²
<i>Total</i>	130

¹Hours included in total for General Education requirements.

²Select one of the following plans: (1) complete at least one course (a total of 10 hours) in each of the following areas: forest and biological sciences, physical sciences, computer science and statistics, business and economics; or (2) complete a total of 10 hours within a single area selected from the above four with approval of a faculty adviser.

FORESTRY MAJOR – OUTDOOR RECREATION RESOURCES MANAGEMENT SPECIALIZATION

The program in outdoor recreation resource management provides interdisciplinary training for management of the nation's outdoor recreation heritage. The courses offered are among those recommended by the National Recreation and Park Association and the Society of American Foresters. The outdoor recreation resource management student travels through selected sections of the United States on a park and recreation field studies session of outdoor recreation and park facilities. The summer camp requires the student pay transportation and living expenses. Other courses in this program may also require additional fees.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Forestry with Outdoor Recreation Resources</i>	
<i>Management Specialization</i>	84
Forestry Core 200, 201, 202a, 202b, 310, 311, 315, 331, 351, 409, 410, 411, 314 or Botany 357	35
Botany 200, Chemistry 140a,b	(6) ¹ + 6
Agribusiness Economics 204 or Economics 215	(3) ¹
GEC 205, GED 101, 102, 153, Mathematics 140, 283	(15) ¹ + 4
Plant and Soil Science 240, 328a,b, Geography 310	11
Forestry 422C Park and Wildlands Management Camp	4
Forestry 320, 420, 421, 423, 470	13
Select at least 5 hours from Forestry 405, 416, 430, Zoology 468a,b	5-6
Restricted Electives	5-6 ²
<i>Total</i>	130

¹Hours included in total for General Education requirements.

²To be elected from forest sciences, business or administration, law or law enforcement, or recreation.

FORESTRY MAJOR – FOREST SCIENCE SPECIALIZATION

The forest science specialization is available for students desiring to enter a graduate program and concentrate in a given area of knowledge. The program provides maximum flexibility to enable students and their adviser to construct individual programs within a specific field of study. The program of study may be selected from any subject area within the competence of the Department of Forestry faculty. Students must have a grade point average of 3.00 or higher in university or college level work to be eligible to enroll and remain in this specialization. New students may enroll upon recommendation of an adviser in the Department of Forestry. The student and an advisory committee comprised of at least two departmental faculty members will develop a program of study designed to meet the needs and objectives for the area of specialty selected. If the student wishes to qualify for employment registers as a forester or for other specific natural resources positions, the student and committee advisers must design a program that is carefully structured.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Forestry with Forest Science Specialization</i>	75
Forestry Core 200, 201, 202a, 202b, 310, 311, 315, 331, 351, 409, 410, 411, 314 or Botany 357.....	35
Forestry and related electives.....	40 ¹
<i>Total</i>	121

¹The student and the academic advisers will select courses designed to meet the needs and objectives for the area of specialty selected.

Courses

- 200-1 Introduction to Forestry.** Acquaints students with the broad field of multiple-use forestry. Special emphasis is given to forestry as a profession. Required field trips cost \$15.
- 201-3 Ecology of North American Forests.** An introduction to forest ecology concepts, site factors, and forests of North America. Emphasis is placed on the silvics of tree species and the impact of soil, climate, and topography on forest vegetation. Forest site-community relationships of selected major North American forest ecosystems will be studied. Saturday field trip may be required at a cost not to exceed \$10. Prerequisite: Botany 200, Plant and Soil Science 240, Biology 307, or consent of instructor.
- 202-2 (1, 1) Tree Identification Laboratory.** A two-semester course that teaches field and laboratory identification of trees and shrubs using leaf, twig, bark, and fruit characteristics. Saturday field trips may be required. Extra costs total \$20 unless paid in 201. Must be taken in a,b sequence, unless otherwise arranged with consent of instructor. Prerequisite: Botany 200.
- 301-3 Social Influences on Forestry.** Study of, and practice in, methods used for effecting social change in forestry and allied natural resource fields. Case studies, readings, and actual practice in techniques are used to develop an understanding of historical and current trends. Prerequisite: a course in sociology and a course in political science.
- 310-4 Practices of Silviculture.** Detailed study of classical concepts and recently developed techniques utilized in silviculture treatment of forests. Major emphasis to be placed upon establishment, thinning, timber stand improvement, and regeneration of forest. Prerequisite: 331.
- 310C-2 Silviculture Field Studies.** Field experience for the student in the various facets of silviculture including planning, thinning, harvesting, timber stand improvement, and site-growth relationships. Offered only at summer camp. Costs for students are given in forestry description. Prerequisite: 331 and 310.
- 311-3 Resources Photogrammetry.** The science and art of obtaining reliable measurement by means of photographs, detection of disease, insects, and fire invasion by remote sensors; and delineation of resources boundaries through interpretation.
- 313-3 Harvesting Forest Crops.** Emphasis is given to lumber sale layouts, sale contracts, and harvest engineering methods. Consideration is given to the environmental impacts of harvesting. Additional cost: \$25. Prerequisite: 310 and 312.
- 314-3 Insect, Abiotic, and Other Stresses Within the Forest.** The impact, recognition, and control of destructive forces within the forest environment. Emphasis placed upon stresses due to climatic factors, macro-parasitic plants, chemical injury, pollution, animal damage, and forest insect pests. Prerequisite: 331, Botany 200, and GE-A 118 or consent of instructor.
- 314C-2 Forest Protection Field Studies.** The prevention and suppression of forest fires, the rec-

ognition and control of insect and disease organisms and other destructive agents in the forest. Summer camp only. Cost per student given in the forestry description. Requires additional expenses of approximately \$20 per student. Prerequisite: 331 and two of the following: 314, 315, Botany 357.

315-3 Fire in Wildland Management. Fire as a phenomenon in wildland management. Topics covered are fire prevention, detection, suppression, behavior, effects, use, and economics. Major emphasis is on fire control and fire ecology. Prerequisite: 331.

320-2 Recreation in Wildlands Environments. Trends in recreational use of wildland environments and emphasis on state and federal parks and forests. Introductory concepts in recreation management, planning, and interpretation.

320C-1 Forest and Wildlands Recreation Field Studies. Recreation of forest and adjacent lands with emphasis on parks and national forests. Administration; interpretation; trends in use and development. Offered only at spring camp (costs per student are given in the forestry description). Requires supplemental purchases of approximately \$2 per student.

331-3 Forest Ecosystems. An analysis and integration of tree growth and of forest structure, material and energy flow, and classification in relation to climatic and edaphic factors to provide an ecological basis for management of forest ecosystems. Prerequisite: 201, 202, Biology 307, Plant and Soil Science 240.

341-3 Forestry Practices. The fundamentals of integrated resource management of timberlands. Management systems, tree stand measurements. Planting and harvesting methods, multiple-use aspects of forest lands. Field trips. Emphasis on small forest ownerships. Not for graduation credit in forest resource's management option.

350-3 Woods as a Raw Material. Structure, identification, and properties of wood. Important species, significance of properties to end-use and significance of wood to the environment.

351-3 Forest Resources Measurements. Introductory measurement, statistical and data processing concepts; volume, growth, and yield of forest products; methods of sampling forest resources. Field trips. Prerequisite: Mathematics 140 and 283.

351C-1 Forest Resources Measurements Field Studies. Methods of determining volume and quality of forest products, forest resource inventory procedures, growth, and productivity studies. Field trips. Prerequisite: 351.

360C-1 Forest Industries Field Studies. A study of primary and secondary forest product processing in the central hardwood region. Course requires field trips. Estimated trip costs \$50.

381-1 Forestry Seminar. Discussion of problems in or related to forestry. Prerequisite: junior standing, minimum 2.5 GPA, and consent of instructor.

391-1 to 4 Special Problems in Forest Resources. Independent research sufficiently important to require three hours per week of productive work for each hour of credit.

401-3 Fundamentals of Environmental Education. (See Agriculture 401.)

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Prerequisite: Mathematics 140. Spring semester odd years.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing. The course is an introduction to the theoretical and practical considerations of remote sensing for an interdisciplinary audience. Coverage will stress background information about the electromagnetic spectrum, reflectance characteristics of various objects, sensors, filters, platforms and energy flow between object and sensor. Prerequisite: advanced standing or graduate status.

409-4 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

411-3 Forest Resources Economics. Introduction to forest economics: Application of micro- and macro-economic principles to forest timber and non-timber production; capital theory; benefit-cost analysis; and economics of conservation. Prerequisite: Economics 215 or Agribusiness Economics 204; and Mathematics 140.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 for student. Prerequisite: summer camp or consent of instructor.

- 417-2 Forest Land-Use Planning.** Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.
- 418-2 Marketing of Forest Products.** The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing programs, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.
- 420-3 Park and Wildlands Management.** The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320C or 422T.
- 421-3 Recreation Land-Use Planning.** Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.
- 422C-4 Park and Wildlands Management Camp.** A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320C and consent of instructor.
- 423-3 Environmental Interpretation.** (See Agriculture 423.)
- 429-4 Wildland Watershed Analyses.** A lecture/laboratory course designed to provide a practical knowledge of the equipment, procedures, and tests used in determining the quality and quantity of waters flowing within and out of wildlands. Prerequisite: Chemistry 140a.
- 430-3 Wildland Watershed Management.** Emphasis is placed on the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331.
- 431-3 Regional Silviculture.** Designed to evaluate the various silvicultural practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310C.
- 451-2 Natural Resources Inventory.** Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost — maximum \$20. Prerequisite: 351 or consent of instructor.
- 452-2 Forest Soils.** Characterization and fundamental concepts of forest soils and their relationships to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Prerequisite: Plant and Soil Science 240 and concurrent enrollment in Forestry 452L. Spring semester even years.
- 452L-2 Forest Soils Laboratory.** Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: Plant and Soil Science 240 and concurrent registration in Forestry 452. Spring semester even years.
- 453-2 Environmental Impact Assessment in Forestry.** Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems on environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trips cost, \$20. Prerequisite: senior standing in a natural resource major.
- 454-2 to 8 Forest Ecology Field Studies.** A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) Southern Appalachians; (d) Southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125.00 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.
- 460-2 Forest Industries.** Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry will also be discussed.
- 470-2 Wilderness Management, Policy, and Ethics.** Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.
- 490A-2 Resources Management Consortium.** Intensive field course in resources management decision making. Student serves as team member in solving resource problems in forestry, wildlife management, recreation, and interpretation at Land Between the Lakes. Enrollment is limited to six. Course taught at Land Between the Lakes. Cost of room and board not to exceed \$100. Not for graduate credit. Prerequisite: consent of instructor.
- 492-1 to 4 Special Studies for Honor Students.** Research and individual problems in forestry. Not for graduate credit. Prerequisite: consent of the department chairperson and a 3.0 minimum grade point average.
- 494-1 to 6 Practicum.** Supervised practicum in a professional setting. Emphasis on administra-

tion, supervision, teaching and program leadership in community, school, park, forest, institution, and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) outdoor recreation resource management, (c) forest resources management. Prerequisite: consent of instructor.

Geography (Department, Major, Courses)

Geography is the discipline that deals with the relationship between human beings and their environment. The Department of Geography emphasizes the applied aspects of this theme, environmental planning and management, and geographic techniques such as cartography and spatial analysis. Students may earn a Bachelor of Arts or Bachelor of Science degree through the College of Liberal Arts, or a Bachelor of Science degree through the College of Education. All geography majors develop a minor in consultation with the Department of Geography undergraduate program director, which can be fulfilled by taking courses in another department or by an interdisciplinary group of courses based on a topical specialty, for example, in water resources.

Community college and transfer students interested in geography are encouraged to visit the department to determine possibilities for waivers, proficiencies, and transfer credit substitution.

Honors in geography is a special three semester program available to majors with an overall grade point average of 3.00 or better. Interested students should apply during the junior year for departmental consent to initiate an honors program.

Students with a minor in geography must take Geography 300 or GEB 103, three 300-level courses and one 400-level course. Geography 300 has been approved as a substitute for GEB 103 for the General Education requirement. Social studies majors in the College of Education with a 9-hour concentration in geography must take Geography 300 or GEB 103 and complete their concentration with electives from geography.

The core program provides a common background for all geography majors. The major then selects a series of 400-level courses to satisfy career goals. Three special interest concentrations are as follows.

Environmental Planning. This concentration is for those interested in careers in environmental management and planning. The courses deal with the economic, social, and political aspects of environmental planning, techniques of evaluation and principles of the environmental systems under consideration.

Cartography and Information Management. This concentration stresses cartography, quantitative techniques, and geographic data management, and is designed for those who wish to go into careers in which geographic techniques are necessary skills.

Geography General. This concentration gives maximum flexibility for those seeking a broad understanding of the field of geography, or those wishing to combine several areas of interest.

Bachelor of Arts or Bachelor of Science Degree, College of Liberal Arts
These courses provide the base for those seeking a broad understanding of the field of geography and who have interests in preparing for graduate study or in applying geography in teaching, industry, or government.

<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in Geography</i>	30-34
Geography Core Courses: 300 or GEB 103, 302, 304 or 326, 310, 410	(3) + 13
Mathematics 108, 116, or 139	(3) + 0-2
Special Interest Sequence	17-19
Environmental Planning: 422, 424, 426, 430, and selection from 400, 425, 427, 432, 434, 436, 470, 471	18-19
Cartography and Information Management: 404, 416, 418 and selection from other 400-level courses	17-19
Geography General: Any 400-level courses	17-19
<i>Minor (or interdisciplinary selection to complementary major)</i>	15
<i>Electives</i>	11-21
<i>Total</i>	120

Bachelor of Science Degree, College of Education

<i>General Education Requirements</i>	46
Must include GEB 114, 202, and 301; GEC 213; GED 101 and 102; GED 152 or 153	
<i>Requirements for Major in Geography</i>	30
Geography 300 or GEB 103 and 443	(3) + 3
Any three: 302, 304, 310, 326, or one regional course	9
Additional courses in geography	18
Must include 12 hours of 400-level courses.	
<i>Professional Education Requirements</i>	28
Curriculum and Instruction 469 is required.	
See Teacher Education Program, Chapter 3.	
<i>Minor (or selection of courses complementary to major)</i>	15 ¹
<i>Electives</i>	1
<i>Total</i>	120

¹Students who intend the use of the minor for teacher certification must complete a minimum of 18 semester hours in the minor.

Minor	
COLLEGE OF LIBERAL ARTS	
A minor in geography requires	15-16
Geography 300 or GEB 103	3
Any three: 302, 304, 306, 310	9
400 level courses	3-4
COLLEGE OF EDUCATION	
A minor in geography requires	19-20
Geography 300 or GEB 103	3
Any two: 302, 304, 306, 310	6
400 level courses	7-8
Geography 443	3

Courses

- 202-2 Contemporary World Geography: Selected Regions and Places.** A geographic study of selected regions and places of particular or current interest in the world. Some attention given to world overview and place names.
- 212-2 Maps and Mapping.** History of cartography; properties, and sources of maps and air photos.
- 224-3 Geography of Natural Hazards.** Damage from natural hazards in the United States is on

the rise while loss-of-life has been declining. Losses from earthquakes, floods, hurricanes, tornadoes, drought, hail, and urban snow in the United States are reviewed. The range of alternatives to cope with natural hazards are appraised; and special attention is given to problems characteristic of all natural hazards – warnings, relief and rehabilitation, insurance, and land-use management.

255-3 Regional Geography of the United States. A survey of environmental, economic, and historical factors and problems in the development of the United States and its regions. Some attention is given to the United States in world perspective.

257-1 to 5 Concurrent Work Experience in Geography. Concurrent work experience in tasks specifically related to the field of geography and such as are found in cartography and map work, climatology, and resource management. Prerequisite: geography major and consent of department. Mandatory Pass/Fail.

258-1 to 5 Past Work Experience in Geography. Past work experience in tasks specifically related to the field of geography such as are found in cartography and map work, climatology, and resource management. Prerequisite: geography major and consent of department. Mandatory Pass/Fail.

300-3 Introduction to Geography. The nature of geography, the kinds of problems which it investigates, the methods which it uses. Charges not to exceed \$5 for field trip.

302-3 Physical Geography. A study of the earth's physical surface, world distribution patterns of the physical elements, their relationship to each other and their importance to people. Field trip and laboratory work. Charges not to exceed \$5 for field trips. Prerequisite: 300 or consent.

304-3 Economic Geography. Study of the spatial distribution and interaction of economic activities. Introduction to locational theory. Prerequisite: 300 or consent.

306-3 Cultural Geography. An overview of the geographic viewpoint in the study of the human occupancy of the earth. Aspects of population, settlement, and political geography are treated, and a generalized survey of major world cultural areas is used to integrate course elements. Prerequisite: 300 or consent.

310-3 Introductory Cartography. Properties of maps and air photos, their use and source; map symbols, map projections, and map construction. Introduction to the use of quantitative techniques as applied in geographic study. Laboratory. Charges not to exceed \$5 for supplies. Prerequisite: 300 or consent.

326-3 Geography of Urban Environments. Explores the historic and present relationship between people and the urban environment, and between urban places and the sites which they occupy. Systems of measuring environmental quality are reviewed along with methods of assessing and forecasting change in the total urban environment.

331-2 The Human Use of Climate. Introduces the basic concepts in the functioning of the climatic environment at the earth's surfaces and develops a holistic view of the way parts and processes of the earth interact through exchanges of energy and water with reference to questions of the human use of the earth.

332-3 Oceanography. A systematic review of the world's oceans, with study of the nature of ocean water, the role of oceans in the Hydrologic Cycle, characteristics of ocean basins, the transport of ocean water, materials and energy exchanges in the oceans, and ocean management and resource problems.

360-3 Geography of Illinois. Introduces and explores some of the spatial elements of the physical and human geography of the State of Illinois through a comparative analysis of the urban and rural lifespaces. Specific geographic issues and problems are selected by the students for group discussion and analysis. Charges not to exceed \$5 for field trips.

362-2 Regional Geography of Europe. Introduces present-day Europe. Survey of the area and an investigation of problems and issues affecting the region.

363-2 Regional Geography of Mediterranean Lands and Southwestern Asia. Geography of northern Africa and the Near East in a systematic context. Settlement and land use patterns, cultural history and diversity, and contemporary problems.

364-2 Regional Geography: Soviet World. Introduction to and survey of the Soviet world and investigation of problems and issues affecting the region.

365-2 Regional Geography of Sub-Saharan Africa. (Same as Black American Studies 380.) Analysis and explanation of emerging spatial pattern of socio-economic development in Africa as most meaningful to the geographer in assessing the continent's transition from traditional to modern political, social, and economic systems.

366-2 Regional Geography: Eastern and Southern Asia. Introduces present-day Eastern and Southern Asia. Survey of the area and an investigation of problems and issues affecting the region.

367-2 Regional Geography of South America. Analysis of the landscapes of tropical and Andean South America. Historical background of current patterns and problems. Present and future development problems in terms of natural resources, economic, and agricultural systems, and ethnic and settlement patterns.

368-2 Regional Geography of Middle America. Interrelationships of groups of humans and their physical and social environments in Middle America. Emphasizes historical depth of perspective. Clarifies the origin of problems in the region.

369-2 Regional Geography of Oceania. Introduces present day Oceania. Survey of the area and investigation of specific problems and issues affecting the region.

- 400-3 Geography of Outdoor Recreation.** Analysis of patterns of outdoor recreation with an emphasis on metropolitan areas. Selected topics include demand forecasting methods, cost-benefit analysis and the valuation of recreation resources, and an analysis of the socioeconomic and spatial impacts of recreation facility provision.
- 404-3 Spatial Analysis.** The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of areal distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor.
- 406-2 Advanced Social Geography.** Deals with one or more of the following: population, settlement, ethnic characteristics, political factors; depending on, and varying with, interests of the instructors. Thus, a student may register more than one time. Emphasis will be directed at familiarizing the student with techniques of analysis, and at developing concepts and principles that underlie understanding of the phenomena and their geographic significance. Prerequisite: 306 or consent.
- 410-4 Techniques in Geography.** Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on areal measures: nearest neighbor analysis, etc. Prerequisite: 300 or consent.
- 416-4 Specialized and Computer Mapping.** Introduction to computer mapping, mapping from air photos, specialized cartographic problems based on individual student interests. Laboratory. Charges not to exceed \$2 for supplies. Prerequisite: 310 or consent.
- 418-3 Management of Spatial Data Bases.** Introduces students to the use of specialized computer programs for the collection, storage, analysis, and mapping of spatial data. A simplified methodology makes the techniques available to students with no previous computer experience. Prerequisite: 310, 304, or consent of instructor.
- 421-2 Urban Geography.** Examination of extracity relationships – theory and structure; intracity relationships – theory and structure, and selected urban problems. Offered once annually. Prerequisite: 300 or consent.
- 422-4 Economics in Geography and Planning.** (Same as Economics 425.) Concepts, symbols, language, theory, and elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 304 or consent of instructor.
- 424-4 Natural Resources Planning.** Literature in resource management problems. Emphasis on theory, methods of measurement and evaluation concerning implications of public policy. The role of resources in economic development and regional planning, water and related land resource problems, and environmental quality from a multi-disciplinary perspective. Prerequisite: 304 or consent.
- 425-4 Water Resource Planning Simulation.** A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 175,000 population. This plan is "Played" against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent.
- 426-4 Administration of Environmental Quality and Natural Resources.** (Same as Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Prerequisite: 300, or 326, or consent of instructor.
- 427-3 Environmental Perception and Planning.** Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the perception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent.
- 430-3 Environmental Systems Analysis.** Exploration of the major environmental systems relevant to environmental planning. Topics include concepts of systems and system behavior; basics of systems analysis and modeling environmental systems; environmental fluxes of energy and materials (e.g., hydrologic cycle, carbon cycle, energy budgets, erosion and sediment transport, role of biosphere in organizing fluxes); environmental variability. Prerequisite: 302 or consent.
- 432-4 Physical Environments of Cities.** Energy and moisture budget concepts are developed from basic principles. Microclimatic data, instrumentation and applications stress urban examples. Models of climatic effects and modeling of people's effects concern city climates mainly. Charge not to exceed \$5 for field trips. Prerequisite: 302 or 430 or consent.
- 433-3 Advanced Physical Geography.** Topics may include landforms, climate, soil or water. Varies with the interest of the instructor. Prerequisite: 302 or consent.
- 434-4 Water Resources Hydrology.** Microclimatic factors which affect the hydrologic events of

various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimatic especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges are not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent.

435-3 Solar and Alternate Energy Planning. Regional and national strategies for energy supply and demand are reviewed followed by a study of current energy resources, reservoirs, and the range of demands and environmental impacts. Community and national planning strategies for increasing the use of solar and alternate energies are explored, simulated by analog computer, and assessed for present and future implementation probability. Field trip expenses not to exceed \$10. Prerequisite: 300.

436-3 Environmental Disaster Planning. Develops the skills and perspectives needed to plan effectively for natural and man-made disasters. The concepts of risk analysis, hazard mitigation and preparedness, response and recovery of the economic and social infrastructure in areas impacted by earthquakes, floods, droughts, radioactive and toxic material releases, and other catastrophic events.

438-3 Applied Meteorology. Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data, air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips. Prerequisite: GE-A 330 or consent of instructor.

439-3 Climatic Change – Inevitable and Inadvertent. The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future climatic state will be made. Charges not to exceed \$10 for field trips. Prerequisite: 330, 331, or consent of instructor.

440-2 Tutorial in Geography. Prerequisite: geography major, senior standing.

443-3 Teaching of Geography. Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300.

470-1 to 5 (3, 1 or 2) Urban Planning. (a) Planning concepts and methods. (Same as Political Science 447a.) Charges not to exceed \$8 for field trips. (b) Field problems. (Same as Political Science 447b.) Concurrent enrollment in 470a is optional. Prerequisite: 326 or 421 or consent of instructor.

471-3 Regional Planning. A study of the viewpoints, methodology, and experience of various types of regional planning in the United States; some attention given to state and national scale planning. Prerequisite: 300 or consent.

480-3 to 6 Internship in Geography. Supervised field work in private or public organization dealing with planning, environmental management, or cartography and geographic information management. A written proposal about the planned internship must be submitted to a faculty supervisor prior to beginning of internship. A faculty supervised report on the work is required after the internship. Courses may be repeated, but no more than 6 credit hours may be applied to an undergraduate major. A graduate student may enroll for 3 credit hours. Prerequisite: geography major and consent of department.

481-6 to 12 Cooperative Work Experience in Geography. Placement of advanced undergraduate or graduate student in private or public organization for one or more semesters in paid career-related position. Student gains professional experience, under faculty and on-site supervision. A written proposal about the planned cooperative work experience must be submitted to a faculty supervisor before it begins. A report summarizing the work experience is required after the work experience ends. Course may be repeated. Six credit hours may apply toward degree requirements. Prerequisite: geography major and consent of department.

487-6 (1, 2, 3) Honors in Geography. (a) honors tutorial; (b) honors reading; (c) honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a, b, c, or b, a, c sequence. Prerequisite: consent of department.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing.

Geology (Department, Major, Courses)

In the field of geology a student may work toward either a Bachelor of Arts or Bachelor of Science degree.

The Bachelor of Arts degree requires a major in geology but is a flexible program, permitting a student to combine training in geology with courses in other areas of interest, such as peripheral sciences, management, or pre-law. A minor is

optional. Having obtained a Bachelor of Arts degree, students may continue their education toward a Master of Science degree in geology, although it may be necessary to absolve deficiencies in physics and mathematics.

The Bachelor of Science degree requires a major in geology and courses in biology, chemistry, mathematics, physics, and science electives. This degree will ordinarily be pursued by students desiring to do graduate work in geology or to become professional geologists.

Bachelor of Arts Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	9-10
Mathematics 108 and 109 or 111	(3) + 2-3
Foreign Languages	(4) + 4
Biological Sciences (Not General Education)	(3) + 3 ³
<i>Requirements for Major in Geology</i>	37-41
Geology 220, 221, 302, 310, 315, 325, 425, 474, and 450 or 454 ⁴	(3) + 28-32
Chemistry 222	(3) + 5 ²
Physics 203a, 253a or 205a, 255a	4 ²
<i>Electives</i>	23-28
<i>Total</i>	120

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.
²Courses will also meet the physical science requirement for the College of Science.
³If courses which have been approved as General Education substitutes are taken, they will count as a part of the 46 hours in General Education.
⁴The summer field geology course, Geology 454, should be taken between the junior and senior years.

Bachelor of Science Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	9-10
Mathematics 108 and 109 or 111	(3) + 2-3
Foreign Languages	(4) + 4
Biological Sciences (Not General Education)	(3) + 3 ⁴
<i>Requirements for Major in Geology</i>	60-61
Geology 220, 221, 302, 310, 315, 325, 415, 425, 454 ³ , 474, and 435 or 436	(3) + 38-39
Geology electives	5
Mathematics 150	4
Chemistry 222	(3) + 5 ²
Physics 203a,b, 253a,b or 205a,b 255a,b	(3) + 5 ²
Electives in supporting sciences or technology (to be approved by geology undergraduate adviser)	3
<i>Electives</i>	3-5
<i>Total</i>	120

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.
²Courses will also meet the physical science requirement for the College of Science.
³The summer field geology course, Geology 454, should be taken between the junior and senior years.
⁴If courses which have been approved as General Education substitutes are taken, they will count as a part of the 46 hours in General Education.

Minor

A minor consists of 16 hours, determined by consultation with the geology adviser.

Courses

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip cost of approximately \$2 to \$7.

220-3 Physical Geology. Introduction to the structure and composition of the earth, and concept of geologic time, and the physical and chemical processes that operate to modify the earth and its surface. Speculations concerning the origin and early development of the earth. Two lectures and one three hour laboratory. One Saturday field trip required. Prerequisite: high school or college chemistry.

221-3 Historical Geology. Principles and methods of interpreting Earth's history. General review and selected examples of Earth's physical, biological, and chemical history. Laboratory and field trips required. Prerequisite: 220; a biology course is recommended.

302-4 Fundamentals of Structural Geology I. An introduction to structural geology including a study of the forces involved in the deformation of the earth's crust, with special emphasis on the recognition and interpretation of the resultant geologic features. Laboratory and two Saturday field trips required. Prerequisite: 220, Mathematics 111. Recommended: Physics 203, or 205 or concurrent enrollment.

310-4 Mineralogy. Rudiments of crystal structure, morphology and symmetry. Introduction to crystal chemistry. Study of the properties, chemistry, occurrence and identification of common rock-forming and economically important minerals. Lecture-laboratory. Prerequisite: 220, Chemistry 222.

315-4 Igneous and Metamorphic Petrology. An introduction to the processes involved in forming igneous and metamorphic rocks, to the geological environments in which these rocks are located, and to their characteristics and classifications. Laboratory. Field trip required. Prerequisite: 310.

321-3 Fossils: Keys to Ancient Life and Environments. For non-majors. A knowledge of the origin, development, and distribution of ancient life, environments, and relations of life to environments is gained through the study of fossils and associated rocks. Examples of ancient environments, their fluctuations and changes are compared with fluctuations and changes in modern environments.

325-4 Sedimentology and Stratigraphy. The characteristic features of sedimentary rocks and the physical and chemical processes responsible for their origin and diagenesis. The classification of stratigraphic units, methods of correlation, and paleogeologic reconstruction. Laboratory and field trips required. Prerequisite: 220, 221, 310; 415 recommended.

330-3 Geology of Illinois. For non-majors and beginners. The physical nature of Illinois, its landforms, rocks and soil, geologic history of its formation, active processes and hazards today. Resource development, land and water use and management. Laboratory provides for individual interests in collecting, photography, ecology, planning, etc.

390-3 Introduction to Mining Geology. Structure and composition of the earth as these impact specifically on mining engineering problems; geologic time, sequence of events, major geologic provinces, types of ore deposits, use of core data, preparation and interpretation of geologic cross-sections. Two lectures and one three-hour laboratory. Two Saturday field trips required. Prerequisite: 220.

412-3 Topics in Igneous Petrology and Geology. In-depth studies of selected topics in igneous petrology and igneous geology. The selected topics will emphasize theoretical considerations, experimental considerations, and field associations of a variety of igneous rock types. Lecture, discussion sessions, and laboratory. Prerequisite: 315, 415.

413-3 Quantitative Methods of Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geologic studies, non-parametric test of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor.

414-3 Paleobotany. (See Botany 414.)

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b, or 205b.

416-3 X-ray Crystallography. (Same as Chemistry 416.) Introduction to the study, measurement, and identification of unknown crystalline materials by X-ray diffraction techniques (especially the Debye-Scherrer methods). Upon request, non-geology majors may work with unknowns from their own fields of study. Prerequisite: 310, Mathematics 150 or consent.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry, and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315, and 325 or consent. Recommended: Physics 203, Mathematics 150, and Geology 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 222 or equivalent.

419-4 Ore Deposits. The geological and other factors that govern the exploration for and occurrence of metalliferous mineral deposits. Study of the geological settings of the major types of ore deposits. Lecture, laboratories, and field trips. Prerequisite: 302, 315.

420-3 Petroleum Geology. The geological occurrences of petroleum including origin, migration, and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 302.

425-4 Invertebrate Paleontology. Principles of paleontology and a survey of the important invertebrate phyla and their fossil representatives. Laboratory. Field trips required. Prerequisite: 221, a biology course.

428-3 Paleocology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325, or concurrent enrollment.

430-3 Physiography of North America. A regional study of North American landforms and their origins. The approach designed to give interaction among students, stimulus in organization and presentation of material and library competence. Plan a trip for optimum view of North American physiography. Prerequisite: 220.

434-3 Volcanology. Volcanic processes and products. Topics include magmas, eruptive styles and mechanisms, lava flows, pyroclastic deposits, volcano morphology, monitoring and prediction techniques. Prerequisite: 220, 315, and advanced standing.

435-3 Solid-Earth Geophysics. Earth's size, shape, mass, age, composition, and internal structure are reviewed in detail as understood from its volcanism, gravity and magnetic fields, seismicity, and motion of continents and ocean basins; plate tectonics. Prerequisite: 302, Mathematics 150, or consent of instructor.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220, Mathematics 150.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor.

445-3 Museum Studies in Geology. History, nature and purpose of geology in museums, relationships of geology to other museum disciplines, application of geologic methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5.00. Prerequisite: 302, 315 or concurrent enrollment.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation cost approximately \$150, supplies \$6. Prerequisite: 302, 315; 450 recommended.

455-3 Engineering Geology. (Same as Engineering 455.) An examination of problems posed by geology in the design, construction, and maintenance of engineering works. Topics studied include ground water, land subsidence, earthquakes, and rock and soil mechanics. Two term papers and a field trip required. Prerequisite: 220 or consent.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introduction to dislocations, deformation history, and microfabric analysis. Hypotheses and orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

466-3 Tectonics. Fundamentals of geodynamics applied to plate tectonics: mantle composition and rheology, deformation of the lithosphere, structural characteristics of plate margins, stability of triple junctions, diachronous tectonics, and orogenesis will be examined in detail. Prerequisite: 302, Mathematics 150, or consent of instructor.

470-3 Hydrogeology. A problem-solving oriented course which covers the analysis and interpretation of the distribution, origin, movement, and chemistry of ground water. Laboratory. Prerequisite: 220, Mathematics 250.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220.

476-3 Pleistocene Geology. Deposits, stratigraphy, and history of the Pleistocene Epoch. Evidence for differentiating and dating the glacial and interglacial sequence examined including deep sea cores, soils, magnetic studies. Required field trips. Prerequisite: 220, 221.

478-4 Environmental Geology. Application of principles of geomorphology to the understanding of environmental problems and geologic hazards. Emphasis on environmental problems related to soils, mass movements, rivers, flooding, waste disposal, groundwater, and coastal processes. Lectures, case studies, and seminars will focus on special problems. Laboratory exercises deal with techniques for assessing environmental hazards (i.e., slope hazards, soil descriptions, flood frequency, and surface water hydrology). Prerequisite: 220 and 474.

480-3 Geology of Coal. Geology as related to exploration, development and mining of coal; stratigraphy, sedimentation and structure of coal deposits; type of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures/week; five¹/₂ day field trips.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 and 221 or consent of instructor.

484-3 Palynology. (Same as Botany 484.) Taxonomy, morphology, stratigraphic distribution, and ecology of fossil pollen, spores, and associated microfossils. Prerequisite: 220, 221, or consent of instructor.

Health Care Management (Major, Courses)

This major is designed to provide course work and experience in the areas of management and supervision for individuals who have training in health-oriented fields from colleges and universities, technical institutes, community colleges, proprietary institutions, or military technical schools. Graduates from diploma programs also may be eligible for admission.

The major builds upon many career specialties. These include, but are not limited to, dental hygiene, dental technology, laboratory technology, medical assisting, medical corps, medical records, medical service corps, mortuary science, nursing, physical therapist assistant, radiologic technology, and respiratory therapy.

Many graduates are obtaining management and supervisory positions in various health and medical care facilities such as hospitals, nursing homes, public health departments, voluntary health agencies, and health care training institutions.

Bachelor of Science Degree, College of Technical Careers

<i>General Education Requirements</i>	46
<i>Requirements for Major in Health Care Management</i>	48
Core Requirements: Advanced Technical Studies 364, 383, 416, and one of the following 332, 421.	12
Fifteen hours selected from Health Care Management 380, 381, 382, 384, 385, 388, and Advanced Technical Studies 412	15
Twelve hours of internship, independent study or approved equivalent	12
Nine hours of health care management electives approved by the adviser	9
<i>Approved Career Electives</i>	26
<i>Total</i>	120

Courses

380-3 Seminar in Health Care Services. Seminar on the various existing and emerging issues which affect control and implementation of health care services to consumers. Topics include but are not limited to ethics, professionalism, credentialling, marketing, and future trends. Senior status or consent of instructor is required for registration.

- 381-3 Health Care Management.** A study of the principles of effective management techniques including planning, decision making, organizing, budgeting, communication, and direction.
- 382-3 Health Economics.** An analysis of the economics of health care in the United States and its effect on society and the health care profession.
- 384-3 Equipment and Material Management in Health Facilities.** A focus on the preparation of health care administrators with the necessary management tools to assure comfort, safety, and well-being of patients, hospital personnel, and visitors, and to focus their attention on sound maintenance management practices, materials procurement, storage and preservation, records keeping, and the utilities systems needed in a health care facility.
- 385-3 Fiscal Aspects of Health Facilities.** An introduction to the fiscal problems encountered in the administration of health care facilities.
- 388-3 Legal Aspects of Health Care.** A study of the legal requirements affecting health care facilities. The course will emphasize the basic law of contracts, consents, records, personnel, liabilities, privacy, and other routine functions. Successful students acquire an understanding of the need for legal counsel. Lecture three hours.
- 413-3 Nursing Home Management.** A study of the principles of nursing home management which examines administrative and staffing functions relating to clients, community, public policy, programming, and financing. Not for graduate credit. Prerequisite: junior standing or consent of department.

Health Education (Department, Major, Courses)

The Department of Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Community health. For those planning to conduct health education and health promotion activities in non-classroom settings.
2. Health education in secondary schools. For those planning to teach health education in the secondary schools.

The two minimal professional preparations are:

1. Health education in secondary schools. For those planning to teach or supervise health education in the secondary schools.
2. Driver education. For those planning to teach driver education in Illinois secondary schools.

These specializations, in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field.

Psychomotor and verbal skills are required for students enrolled in Health Education 334 and 434. If questions arise concerning an individual student's ability in these areas, an assessment will be made prior to the end of the first week of the semester to determine whether the individual student possesses the necessary skills to remain in the course. The final decision will be made by the first aid coordinator in the Department of Health Education.

A student in the community health specialization must have a 2.5 grade point average in the major before clearance to do an internship.

Bachelor of Science Degree, College of Education

HEALTH EDUCATION MAJOR – COMMUNITY HEALTH SPECIALIZATION

<i>General Education Requirements</i>	46
<i>Requirements for Major in Health Education</i> (2) +	32-36
Health Education 301, 305, 311, 312, 326, 330, 355, 401, 483, 490, and 491; GEE 201	
<i>Recommended Electives</i>	12-15
<i>Electives</i>	26-30
<i>Total</i>	120

HEALTH EDUCATION MAJOR – HEALTH EDUCATION IN SECONDARY SCHOOLS SPECIALIZATION

<i>General Education Requirements</i>	46
Must include GEB 114, 202, and 301; GEC 213; GED 101 and 102; GED 152 or 153	
<i>Requirements for Major in Health Education</i>	30
Health Education 301, 305, 312, 313s, 326, 334, 355, 401, 405, and 491	
<i>Professional Education Requirements</i>	25
(See Teacher Education Program, Chapter 3.)	
<i>Electives</i>	19
<i>Total</i>	120

The two minimal professional preparations requirements for Illinois teachers are:

Health Education in Secondary Schools: Health Education 301, 305, 312, 334, 355, 405, and 491

Driver Education: Health Education 302S, 313S, 442S, 443S, 475S, plus three hours of electives from the following: Health Education 323S, 334, 445, 470S, 480S, 481S, 495S

Courses

- 240-2 Human Relations Between the Sexes.** Explores concepts and issues including development of sexuality, selection of a life partner, premarital sex experience, modern morality and the development of sexual mores, marriage, family planning, reproduction, varieties of sexual expression, and sex education.
- 301-3 Advanced Concepts of Health.** Interrelatedness and interdependence of health as a total concept. Concepts of health and health education within the context of an option-expanding world are examined. Emphasizes role of the individual in assuming responsibility for one's own health behavior as well as education for a health-activated citizenry.
- 302S-3 Driver and Traffic Safety Education – Introduction.** A beginning course that deals with the highway transportation system, traffic problems, the driving task, perception and implementation of the driver education classroom program. Observation of the teaching environment is included. Prerequisite: a valid driver's license.
- 305-3 Principles and Foundations of Health Education.** An introductory professional course in the field, designed to implement the evolving concept that health education is both content and process; major concepts for a variety of teaching-learning approaches in school and other community settings are considered; health careers and opportunities in field are described.
- 310-6 Emergency Medical Technician.** Upon successful completion of a national examination, meets the formal requirements and certification for those who want to become an Emergency Medical Technician. The course is concerned with cognitive and practical experiences. Triage, vehicle extrication, emergency room observation, and driving an ambulance experiences conducted outside the normal class meeting times are required. Students will be required to pay a laboratory fee of approximately \$25. Prerequisite: restricted to written consent of course coordinator.
- 311-3 Human Growth and Development.** An overview of human development from conception through senescence. Designed for professional personnel who will be concerned with planning health programs for groups representing broad age ranges. Emphasis will be on physical, mental, and social dimensions of growth and development.
- 312-3 Emotional Health.** Concepts of positive emotional development in terms of influence in the classroom and other community settings.
- 313S-3 Introduction to Safety Education.** Introduces the principles and fundamentals of safety education. Concerns safety as a social problem and considers major accident areas, accident causes, liability, and analyzes possible solutions to accident problems.
- 323S-3 Methods and Materials in Safety Education.** Learning strategies used in teaching safety for elementary and secondary school levels. Emphasizes selection and design of materials participation and demonstration.
- 326-3 Evaluation in Health Education.** Principles and methods for monitoring the implementation of health education and for assessing its impact. Development and selection of valid and reliable measures. Use of standardized scores and other appropriate statistics. Applications in classroom and community settings.
- 330-3 Consumer Health.** Federal and state legislation affecting consumer health; official watchdog agencies on consumer health; non-official agencies (AMA, CU, etc.); health and advertising in health and medicine; cultists' and faddists' effect on consumer health.
- 334-3 Standard First Aid and Personal Safety.** Provides students with first aid and cardiopul-

monary resuscitation knowledge and skill competencies necessary to care for injuries and provide assistance in emergencies. The course can lead to certification in American Red Cross Standard First Aid (Lecture), Cardiopulmonary Resuscitation, Introduction to Health Services Education, and Standard First Aid (Lecture) Instructor programs. American Red Cross services and materials fee payable to local Red Cross chapter collected in class.

350-3 Health Education in the Elementary School Curriculum. Acquaints the prospective teacher in the elementary school with fundamental processes, techniques and instructional materials related to health education.

355-3 Introduction to Community Health. Organization and administration in local, state, and national official and non-official health agencies, their purposes and functions, and an overview of methods for meeting community health needs and for solving community health problems.

400-2 to 15 (2 to 3 per part) Health Appraisal of School Children. (a) General assessment. (b) Hearing conservation. (c) Vision training. (d) Spinal screening program. (e) Special topics. Includes the screening, testing, and evaluation for numerous health conditions related to hearing, vision, the cardiovascular system, skin, spine, and such diseases as diabetes, tuberculosis, herpes, and other such ailments. Included will be classroom lectures and presentations, a supervised practicum, and all students will develop a viable program in a particular problem area in a public school program.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention, and control of diseases in various community settings.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

403-3 Health Advocate Training. Provides students with knowledge and skills in the areas of peer health education, health advocacy, and referral. Instruction includes health care information from a wellness point of view. Prepares students for practicum in health advocate program. Credit will not count toward a master's degree in health education. Prerequisite: consent of instructor.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes.

406-3 A Seminar: The Health Professional and Human Sexuality Issues. Human sexuality issues which must be dealt with by professional health workers including nurses, physicians, patient educators, institutional supervisors, and other administrators are considered in the course and current approaches and solutions for questions raised by these issues are examined.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and material.

410-3 Human Sexuality. Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

411-6 Emergency Medical Technician in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation and having them adopt previously learned skills and newly developed skills. Prerequisite: 310 or 434.

430-3 Health and Injury Control in A Work Setting. (Same as Industrial Technology 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

434-4 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid emergency care procedures are needed. American Red Cross and American Heart Association certification may be obtained. Materials purchased from the American Red Cross and/or the American Heart Association are required in this course. Consent of instructor required.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health. The course deals with a wide variety of health concerns of American women as consumer in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. Emphasis is also placed on current health related issues of women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Education – Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302S.

443S-3 Driver and Traffic Safety Education – Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education. Prerequisite: 442S or consent of instructor.

445-3 Advanced Driver Education Instructor Training. Prepares prospective instructors of

advanced driving techniques. Emphasis is placed upon safe driving practices, vehicle dynamics, emergency vehicle operation, in-car response to simulated driving emergencies, and instructional techniques. Prerequisite: consent of instructor.

446-4 Motorcycle Rider Education Instructor Training. Provides prospective teachers with on-cycle teaching experience with beginner riders. Addresses program administration, scheduling, public information techniques, equipment procurement, evaluation and instructional technology. Certification as Motorcycle Rider Course Instructor can be obtained. Materials purchased from the Motorcycle Safety Foundation are required in this course. Prerequisite: consent of instructor.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

455-3 Computer Applications in Health Education. Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

460-3 Health Programs in Secondary Schools. Orientation of teachers to health programs and learning strategies. Designed for secondary education majors. Open to non-health education majors only.

461-1 to 12 Health Education Workshop. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Strategies. This course is designed for graduate students who are teaching assistants in the Department of Health Education. The purpose of the course is to enhance professional skills of those who are responsible for teaching health education, general education, and first aid.

475S-3 Traffic Law Enforcement and Planning. Acquaints safety and driver education teachers and highway safety personnel with purposes of traffic law enforcement and engineering, and methods used to fulfill these purposes. Emphasis is placed upon ways of improving existing services and coordinating efforts of official and non-official agencies concerning traffic problems. Prerequisite: 302S or consent of instructor.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443S or consent of instructor.

481S-3 Traffic and Safety Education – Evaluation Techniques. Emphasizes method of evaluation as applied to traffic and safety education programs. Prerequisite: 480S or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices.

485-3 International Health. Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

488-3 Environmental Dimensions of Health Education. Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

489-3 Introduction to Vital Statistics. An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.

490-2 to 6 Field Experiences in School, Community Health or Safety Education. Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: consent of instructor.

491-3 Health Teaching/Learning: School and Community. Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education.

495S-3 Driver Education for the Handicapped. Methods and techniques in the use of assistive equipment and program materials for teaching handicapped persons how to drive. Prerequisite: advanced standing or consent of instructor.

496-4 Industrial Hygiene. Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

499-3 Rx: Education in Health Care Settings. Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and ma-

terials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dieticians, therapists, pharmacists, social workers, and related professionals.

History (Department, Major, Courses)

A major in history consists of thirty-three semester hours of history courses in addition to general education requirements. Students who plan advanced study in preparation for college teaching or other professional work are advised to take added work.

A number of different patterns are available for students anticipating various futures. Students should consult with departmental advisers to choose the pattern that fits their needs. The basic regulation is that, for a course to count toward the major, it must be approved in advance by one of the advisers in the department. Normally the department will accept a substantial part of the credits in history taken in other accredited institutions. In every case, transfer students must have taken at least 18 semester hours in history at Southern Illinois University at Carbondale.

Advisers are available in the Department of History to assist students in planning their programs in accordance with current University and departmental regulations. Normally courses must represent at least two areas of history (United States, European, and Third World) and should be distributed chronologically as well as geographically. Students must also complete a minimum of four courses at the 400 level and they must write a research paper in history.

All history majors should meet with the department's undergraduate advisers each semester to keep up to date the records of their progress toward the degree and to receive advance approval of their courses. Transfer students should report to the department prior to their first semester of attendance. A C average in the major is required for graduation. A 2.5 average in the major is required before student teaching will be approved by the department.

Students with exceptional scholarly promise may be invited into the departmental honors program which begins with a colloquium and continues with an honors seminar and thesis prepared under the direction of a member of the department. Graduation with departmental honors in history is given to those who successfully complete the program.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in History</i>	(3) + 33 ¹
History 205a,b or equivalent.....	6
History 300 and GEB 301 or equivalent.....	(3) + 3
History 492, 493, 494, or 495.....	1-4
History electives, distributed in two fields of history.....	20-23
<i>Electives</i>	27-33
These may include 28 hours in professional education for teacher certification. ²	
<i>Total</i>	120

Bachelor of Science Degree, College of Education

<i>General Education Requirements</i>	46 ²
Must include GEB 114, 202; GEC 213; GED 101 and 102; GED 152 or 153.	

<i>Requirements for Major in History</i>	(3) + 33 ¹
History 205a,b and two additional world history courses ³	12-14
History 300, GEB 301 and three additional U.S. history courses	(3) + 11-13
History 492, 493, 494, or 495	1-4
History electives	2-9
<i>Professional Education Requirements</i>	28
(See Teacher Education Program, Chapter 3.)	
Curriculum and Instruction 469 is required.	
<i>Electives</i>	13
<i>Total</i>	120

¹At least twelve hours must be taken at the 400 level.
²Students in the College of Liberal Arts seeking teacher certification should select courses in the major as described under the College of Education.
³World history study should include at least three hours other than European and U.S. history.

Minor

A minor in history consists of 18 semester hours. The student is advised to balance courses between at least two of the three fields of American, European, or Third World history. Transfer students, in order to have a minor in history, must have taken at least nine semester hours in history at Southern Illinois University at Carbondale.

Courses

- 205-6 (3, 3) History of Western Civilization.** (a) From ancient times through the sixteenth century; (b) The seventeenth century to the present. A brief survey of the major developments and trends in European history from ancient times through the 20th Century.
- 300-3 The Origins of Modern America, 1492-1877.** A general survey of political, social, and economic development of the United States from 1492 to 1877.
- 303-1 to 3 Topics in Comparative History.** A comparative study of recurring themes in the history of diverse societies and civilizations. Topics will vary and will be announced in advance. Topics to be covered include the problem of slavery, technology and society, war, and civilization.
- 315-3 Mediaeval Europe.** The emergence of Europe from the Age of Constantine to the Black Death, with emphasis on the political, socio-economic, and cultural forces which were at work creating Europe.
- 320-3 Early Modern Europe.** The development of Europe from the Renaissance through the Age of the French Revolution.
- 323-3 History and Artistic Creativity.** A selected exploration of the specific conditions in Western history, from the Renaissance to the present, which have encouraged and given direction to creativity in the arts.
- 324-3 Women in European Society: 1600 to Present.** (Same as Women's Studies 348.) The legal, social, economic, and political position of women in European society during the past 350 years are examined against the backdrop of industrialization, political democratization, world wars, and totalitarianism. How women participated in, reacted to, and were affected by this transformation are the major themes of the course. Contemporary writings as well as historical works will be utilized.
- 325-3 Europe Since 1815.** The development of Europe from the Age of the French Revolution to the present day.
- 330-6 (3, 3) English History.** (a) England to 1688; (b) England since 1688. Political, social, economic, and cultural history of England.
- 336-3 Twentieth-Century Dictatorships and Global Conflict 1919-1945.** The emergence of the Axis dictatorships in Europe and the Far East, their ideology, expansion, aggression and their defeat in World War II.
- 338-3 Eastern Europe.** An historical survey of the East European area from the Baltic to the Balkans, with emphasis on the modern era.
- 339-3 Contemporary Soviet Civilization.** Developments in the Soviet Union since World War II, with coverage of similarities and dissimilarities of the U.S. and the USSR, their conflict and cooperation. Discussion of Soviet cultural minorities and the stature of the Soviet Union in the Third World.
- 350-2 The Revolution and the Constitution in American History.** An introduction to the causes and consequences of the American Revolution with special focus on the political principles

contained in the Declaration of Independence and the Constitution and the effects these documents have had on American history.

354-3 The United States Since 1945. America enters the atomic age; a study of American society since the end of the Second World War and the role played by the United States in the world.

355-2 to 3 The Radical View in American History. A study of American radicalism from the revolution to the present.

361-3 Race and History in the United States. (Same as Black American Studies 360.) This account of racial attitudes and race relations begins with the 16th century European racial experience and covers subsequent developments in the U.S. to the present time. The problem of race is treated in its several dimensions, but principal emphasis falls upon the historical consequences of Caucasian confrontations with blacks, Hispanics, and native Americans.

362-6 (3, 3) Black American History. (Same as Black American Studies 311.) (a) Black American history to 1865; (b) black American history since 1865. The role of blacks and contribution in the building of America and their ongoing fight for equality.

364-3 The Great Depression in the United States. Causes and effects of the Great Depression and of governmental measures for relief, recovery, and reform during the years 1929-1942.

366-3 American Indian History. A comprehensive history of American Indians from prehistoric times to the present.

367-3 History of Illinois. The history of the state from 1818 to the present.

368-3 Women in American History. (Same as Women's Studies 347.) Covers the role of women in colonial society, the impetus for an organized women's rights movements in the 19th century and how it related to general reform movements, and gains and setbacks in the industrial-urban society of the 20th century.

369-3 History of the American Family. (Same as Women's Studies 346.) A survey of the American family from its origins to the present, focusing on the variety of families — English, African, later immigrants, middle class, and poor. During the course students will write their own family histories, thereby applying what they have learned to their own lives.

370-6 (3, 3) History of Latin America. (a) Colonial Latin America. (b) Independent Latin America. An introduction to the political, economic, social, and cultural development of Latin America from Precolumbian times to the present.

380-6 (3, 3) History of East and South Asia. (a) China and Japan; (b) India and Southeast Asia. The first semester focuses on China and Japan from early times to the present; the second semester concentrates on India and Southeast Asia in modern times.

387-6 (3, 3) History of Africa. (Same as Black American Studies 314.) (a) History of West Africa. A study of West African peoples from earliest times to the present, including the era of kingdoms, the role of Islam, African-European relations, colonialism, and African nationalism. (b) History of East-Central Africa. From earliest times to the present, including migrations and kingdoms, African-Arab-European relations, colonialism, and African nationalism.

390-3 History in Fiction. A comparative study of fictional accounts and of analyses written by historians over selected periods or topics.

393-3 Twentieth Century Military History. An introduction to the problems of armed conflict throughout history with particular emphasis on the twentieth century and the transformation of warfare during the era of the World Wars. Prerequisite: sophomore standing or consent of instructor.

395-3 Honors. Great ideas and works of history, with discussion of conflicting interpretation of major historical problems. Prerequisite: junior standing and consent of department.

413-6 (3,3) Medieval Society. (a) The Early Middle Ages. A.D. 400-1000; (b) The Late Middle Ages, A.D. 1000-1400. An examination of the distinctive elements of medieval European civilization. The first semester will consider the transition from ancient to medieval society and the gradual development of a new social and economic regime. The second semester will be devoted to a study of the full development of that new regime, its flowering in the 13th century and the crisis of the 14th century.

418-3 Renaissance. The focus on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries.

421-6 (3, 3) Absolutism and Revolution: Europe 1600-1815. (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period.

422-6 (3, 3) Intellectual History of Modern Europe. (a) 1600-1815; (b) Since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period from Marx and Darwin to the Contemporary World.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3, 3) Social and Revolutionary Movements in Nineteenth Century Europe. (a) 1815-

1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution.

425-6 (3, 3) Twentieth Century Europe. (a) Era of the World Wars; (b) Since 1945. Political, social, cultural and economic development of the major European states during the present century.

432-3 History of France. Social, economic, political, and intellectual evolution from medieval origins to the present day. French contributions to western culture.

433-3 History of Germany. German state and society from the Middle Ages to the present day.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present.

436-3 History of Spain. Spanish state and society from the Middle Ages to the present.

437-6 (3, 3) History of Russia. (a) Imperial Russia from Peter the Great to the emancipation of the serfs; (b) Russia since emancipation: modernization and revolution. The study of Russian history from Peter the Great to the present.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

442-3 Cultural History of England, 1780-1914. An examination of Victorian society and values as reflected in such sources as novels, essays and memoirs.

443-3 Twentieth Century England. The social, economic and political development of England in the twentieth century.

450-6 (3, 3) Early America. The evolution of American society from European settlement through the Age of Jefferson, with special emphasis on social and political institutions and thoughts.

451-3 United States History, 1815-1850. The struggle for democratic institutions and the emergence of sectional conflict in the Jacksonian Era.

452-6 (3, 3) United States History 1850-1896. (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization; 1865-1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.

453-6 (3, 3) Twentieth Century American History. (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890's with emphasis upon politics, political ideas and diplomacy.

460-6 (3, 3) Social and Intellectual History of the United States. (a) To 1860; (b) since 1860. The development of American society and a study of the various types of economic, social, and political thought that have influenced it.

461-6 (3, 3) Constitutional History of the United States. (a) To 1877; (b) from 1877. Origin and development of the American Constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system.

463-6 (3, 3) History of American Diplomacy. (a) To 1900; (b) Since 1900. General consideration of American foreign policy and the emergence of the United States as world power.

464-6 (3, 3) American Economic History. (a) To 1869; (b) Since 1869. The growth of the American economy from the colonial period to the present. Emphasis is placed on the historical forces which influenced the American economic system.

465-6 (3, 3) History of the South. (a) The Old South; (b) The New South. Social, economic, political, and cultural developments of the South.

466-6 (3, 3) History of the American West. (a) Trans-Appalachian Frontier; (b) Trans-Mississippi Frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

470-6 (3, 3) Continuity and Change in Latin America. (a) To 1825; (b) Since 1825. The interaction of economic forces and intellectual currents with Latin America social structures and political institutions, from pre-Columbian times to the present.

474-3 Andean South America. The political, economic, social, and cultural development of the Andean nations from pre-Columbian times to the present.

480-6 (3, 3) History of Chinese Civilization. (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China and emphasis on classical philosophies, religions, historical writings, literature, arts, and science. The second semester deals with the transformation of China into the modern ages.

484-3 History of Central Asia. Tribes, migrations, wars, and power politics in Central Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier.

490-1 to 4 Special Readings in History. Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

491-3 Historiography. Writings of historians from Herodotus to the present.

492-3 Historical Research and Writing. Methods of historical investigation, criticism, and composition. Restricted to undergraduate majors in history.

493-1 to 6 Problems in History. Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

194-3 Quantitative Research in History. An introduction to the application of quantitative data and social science methods to historical research.

195-4 History Honors. Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.

196-1 to 9 Internship in History. Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and six hours toward the M.A. degree. Prerequisite: consent of department.

197-3 Historical Museums, Sites, Restorations and Archives. The historical development of the museum from the Academy, the Lyceum, and the Great Museum of Alexandria. Discussion of the museums that have developed in the last three centuries with emphasis on the United States will include historical sites such as battlefields, forts, historic buildings, restorations, historical monuments, and major archives. Field trips to some of these sites form part of the course.

198-3 Problems of the History Museum. Examines the general background and function of the museum in its accompanying setting with special emphasis on tasks of the individual who wishes to work in a historical museum or in an interpretative center. Given in cooperation with the University Museum. Prerequisite: consent of instructor.

Industrial Technology (Major, Courses)

The industrial technology major has as its objective the training of qualified personnel who can develop and direct the production and distribution of products and services. There are two specializations: manufacturing technology and mining technology; however, the mining technology specialization is presently inactive.

The major is designed to to prepare management-oriented technical professionals in the economic-enterprise system. Industrial technology professionals will be involved with:

1. The application of significant knowledge of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.
2. The understanding and ability to apply principles and concepts of mathematical and physical sciences.
3. The application of concepts derived from, and current skills developed in, a variety of technical disciplines including, but not limited to, robotics, processes, computer-aided manufacturing, quality control, motion and time study, plant layout, materials handling, industrial safety, production and inventory control, human relations, and computer-aided drafting.

The industrial technology curriculum is flexible enough to provide the means whereby graduates of two-year occupational programs may obtain a Bachelor of Science degree. A graduate of a two-year industrially-oriented occupational program, such as aviation, construction, drafting, data processing, electrical, machine tool, mechanical, and mining may have an appropriate preparation to pursue a Bachelor of Science degree with a major in industrial technology.

Students with work related experience may receive credit toward the degree via Industrial Technology 258. Additional flexibility in earning credit toward the degree is possible through cooperative work experience provided meaningful employment is available.

A capstone option may be available in the industrial technology major and is explained in Chapter 4 of this bulletin. Students holding associate degrees of at least 60 semester hours in non-baccalaureate-oriented programs or equivalent certification with a minimum grade point average of 2.25 are qualified. For the industrial technology major, the associate degree or equivalent certification should be in an industry-related field. This option permits qualified students to fulfill their degree requirements by completing 60 semester hours of work approved by the capstone adviser. Each individual's program of study may differ according to the previous academic work.

The industrial technology program is accredited by the National Association of Industrial Technology. For each curriculum, a minimum of 30 hours in industrial technology courses must be taken in residence at Southern Illinois University at Carbondale.

Bachelor of Science Degree, College of Engineering and Technology

INDUSTRIAL TECHNOLOGY MAJOR – MANUFACTURING TECHNOLOGY SPECIALIZATION

The manufacturing technology specialization is designed to prepare graduates for supervisory and technical management positions in manufacturing. Curriculum requirements are broad based to enable the graduate to obtain employment in manufacturing areas such as quality control, processes, safety, methods analysis, and computer-aided manufacturing/robotics. The Capstone program feature is available for students and is described in Chapter 4 of this bulletin.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Industrial Technology</i>	74
Core Requirements.....	25-26
Physics 203a,b, 253a,b.....	(6) + 2
Mathematics 111.....	(3) + 2
Mathematics 140 or Industrial Technology 307.....	3-4
Psychology 323 or Industrial Technology 240.....	3
Computer Science 212 or Industrial Technology 270.....	3
Industrial Technology 105, 382, 465, 475.....	12
Specialization in Manufacturing Technology.....	48-49
Industrial Technology 208, 358, 375, 390, 440, 445.....	18
Technical Electives.....	30-31
<i>Total</i>	120

INDUSTRIAL TECHNOLOGY MAJOR – MINING TECHNOLOGY SPECIALIZATION

The mining technology specialization is presently inactive. It is designed to prepare graduates for supervisory and technical positions in the mining industry. Course requirements are specifically planned to complement the mining technology background of the community college or technical institute associate degree graduate. The Capstone program feature is available for students and is described in Chapter 4 of this bulletin.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Industrial Technology</i>	74
Core Requirements.....	26
Geology 220.....	(3)
Physics 203a,b, 253a,b.....	(6) + 2
Mathematics 111.....	(3) + 2
Mathematics 140.....	4
Psychology 323.....	3
Computer Science 212.....	3
Industrial Technology 105, 382, 465, 475.....	12
Specialization in Mining Technology.....	48
Industrial Technology 320, 321, 360, 410, 420, 460.....	18
Engineering Technology 263.....	3
Technical Electives.....	27
<i>Total</i>	120

Courses

Safety glasses, a suitable scientific calculator, and textbooks are required for most of the following courses.

105-3 Technical Sketching. Basic principles of technical sketching including freehand sketching techniques, lettering, orthographic projection, pictorial sketching, auxiliary views, sectional views, dimensioning, tolerancing, fasteners, working drawing interpretation, and computer-aided drafting.

208-3 Fundamentals of Manufacturing Processes. Introduction to the basic processes, equipment, and material used in manufacturing. Includes plastics, metal removal, materials joining, casting, and some of the newer processes.

209-3 Manufacturing Process Laboratory. Laboratory experiments to familiarize the student with the theory and operation of manufacturing processes. Laboratory. Prerequisite: 208 or consent of instructor.

240-3 First-Line Supervision. Analysis of problems of first-line supervisors. Topics include leadership, motivation, communication, grievances, training, discipline, and group and individual effectiveness, and labor relations.

258-2 to 30 Work Experience Credit. Credit granted for past work experience while employed in fields related to the student's educational objective. Credit is established by departmental evaluation.

259-2 to 60 Occupational Credit. For occupational credit earned at junior colleges and technical institutes. Credit is established by departmental evaluation.

270-3 Computational Methods for Industrial Technologists. Introduces the student to a problem-oriented computer language that is used to solve relevant problems that occur in industry.

307-3 Applied Calculus for Technology. Applying mathematical techniques to technology problems, including the analysis, formulation, and problem solutions. Techniques of differentiation, max-min problems, and elementary techniques of integration. Prerequisite: Mathematics 111 or equivalent.

319-2 to 16 Industrial Internship. Industrial experience includes job skills, manufacturing processes, technical information, and labor-management relationships with supervised instruction, conferences, ad examinations. Prerequisite: consent of instructor. Mandatory Pass/Fail.

320-3 Surface Mining Operations. The elements of surface mining, methods and equipment, surface mine terminology, pit development, and equipment selection. Field trips. Prerequisite: appropriate background.

321-3 Underground Mining. Study of terminology, mining methods, equipment selection, ventilation, haulage, coal handling, and safety parameters associated with underground coal extraction technology.

330-1 Current Mining Problems. Guest lecturers provide timely information on current mining technology problems. Special investigations of mining techniques. Emphasis on state and federal regulations.

341-3 Maintenance. Principles and practices of maintenance department organization, preventative procedures, and typical equipment problems. Also, includes related topics such as plant protection, custodial services, and maintenance of powerplants.

351-3 Industrial Metrology. Methods and equipment of industrial measurement and inspection. Includes 3-D measuring machines, lasers, and non-destructive testing.

358-3 Materials Handling and Plant Layout. Methods and equipment of materials handling. Plant layout techniques. Students are assigned a plant layout project. Prerequisite: 382 or Administrative Science 318, or consent of instructor.

360-3 Mine Production and Inventory Control. Study of mine production and inventory control through the exploration, development, and production phases. Includes topics in planning, process control equipment, scheduling, inventory control, and cost analysis.

362-3 Industrial Packaging. Analysis of packing principles, equipment, and processes such as paper, glass, metal containers, and plastics.

375-3 Production and Inventory Control. Production and inventory control systems. Includes topics in forecasting, master production scheduling, material requirements planning, capacity requirements planning, inventory management, production activity control, and applicable operations research techniques.

382-3 Motion and Time Study. Principles and practices of motion and time study including process charts, operation charts, motion summary, and time standards.

385-3 Purchasing. Provides a comprehensive knowledge of modern procurement practices and policies. It combines analysis of the fundamental purchasing principles with analytical descriptions of the latest developments and techniques.

390-3 Cost Estimating. (Same as Engineering Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

395-3 Technology Design. An elective project on a technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: consent of instructor.

410-3 Mining Reclamation. Study of reclamation techniques associated with underground and surface coal mining. Emphasis is placed on the integration and cost trade-offs associated with coal extraction and reclamation as well as federal, state, and local regulations. Prerequisite: consent of instructor.

420-3 Coal Preparation and Analysis. Study of coal preparation and blending in association with coal analysis. Design and operation of preparation plants including water management, waste management, coal storage, loading, and transportation.

425-3 Advanced Process Design and Control. Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 309, 310.

430-3 Health and Injury Control in A Work Setting. (Same as Health Education 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

439-3 Bulk Materials Handling. Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

440-3 Manufacturing Policy. Review of all areas covered by the industrial technology program. Includes problems for solution which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 358, 365, 375, 382, or consent of instructor.

441-3 Mine-Safety Technology. An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

445-3 Computer-Aided Manufacturing. Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control, and quality control. Laboratory. Prerequisite: 208, computer programming, or consent of instructor.

450-3 Industrial Systems Analysis. Teaches the systems required for successful industrial operations. The role of the computer in system design and application is emphasized.

455-3 Industrial Robotics. Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 340.

460-3 Mining Technology. A capstone course to include all aspects of coal mining. Group projects are assigned on the design and development of a mine with emphasis on cost, productivity, yield, equipment, and staffing. Prerequisite: 320, 321, 420, or consent of instructor.

465-3 Industrial Safety. Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act. Prerequisite: senior standing.

466-3 Occupational Safety and Health Standards. Covers the standards, inspection procedures, and compliance requirements covered in the latest revisions of the Occupational Safety and Health Act of 1970. Emphasis is placed on developing the student's ability to detect violations of the standards and recommend corrective safety actions.

475-3 Quality Control. Use of statistical quality control to improve work product quality. Topics include histogram, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, and reliability. Prerequisite: senior standing.

492-1 to 6 Special Problems in Industry. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

494-1 to 12 (A-L-1 hour each) Applied Project. Selected applied project. Requires the students to apply knowledge learned in various courses to the solution of industrial problems. (a) Motion and time study, (b) cost estimating, (c) materials handling and plant layout, (d) production and inventory control, (e) quality control, (f) manufacturing policy, (g) industrial systems analysis, (h) fundamentals of industrial processes, (i) industrial safety, (j) analytical problems in technology, (k) computer-aided manufacturing, (l) industrial metrology. Not for graduate credit. Prerequisite: consent of instructor.

Interior Design (Major, Courses)

The interior design program is a part of the Division of Graphic Communication, College of Technical Careers.

The interior design curriculum is planned to assist students in preparing to serve the interior design and architectural professions in the areas of public building, commercial, and residential planning. This includes spatial concepts, interior systems, office landscape, traffic and communication, and human factors. An in-depth understanding of the relevancy of the curriculum to the profession is given

the students through lectures and critiques by visiting interior designers, architects, and adjunct professors.

Employment opportunities exist in interior design studios and architectural firms; in major corporations as in-house planners and designers and in various retail organizations and furnishing manufacturers.

The interior design program is accredited by the Foundation for Interior Design Education Research.

The program provides the faculty, studios, and as many other facilities as possible, but all other costs including supplies, equipment, and required field trips that are necessary to the successful completion of the program are borne by the student. Interior design education is relatively expensive, and because of the individual nature of the creative laboratory work, it is impossible to predict the exact cost for each student. A reasonable estimate of initial cost would be \$250 for equipment, supplies, and books. Much of this equipment is non-expendable but there will be additional supply costs for other courses in the program.

Bachelor of Science Degree, College of Technical Careers

General Education Requirements.....	45
GEC 205 required; Art 207 must be taken as approved substitute in GEC	
Requirements for Major in Interior Design.....	75
GEC 205	(3) ¹
Art 120, 207.....	(3) + 3
Technical Careers 215a,b	6
Vocational Education Studies 335.....	2
Interior Design 111, 112, 142, 221, 222, 234, 242, 262, 334, 351, 363, 383, 384, 391, 392, 406, 462, 471, 493, 495, 496	61
Professional Elective.....	3
Total	120

¹GEC 205 also meets a requirement in General Education.

Courses

- 111-3 Elements of Interior Design.** Introduction to the elements of design: line, form, light, color, and textures through the application of purposeful experiments in 2D/3D relationships of form and space and the interrelationships of color and texture as revealed by light. Lecture and studio. To be taken concurrently with Art 110 and Technical Careers 215a.
- 112-3 Principles of Interior Design.** Introduction to the principles of design: balance, rhythm, unity, emphasis, and scale/proportion through the perspective of historical and current examples in various design areas. Lecture. Prerequisite: 111 or consent of coordinator.
- 142-3 Architectural Detailing.** Study of construction methods and materials of buildings and standard graphic methods of communication of this information from the point of view of how things go together. Focus is on wood frame construction. Lecture and studio. Prerequisite: Technical Careers 215a or consent of coordinator.
- 221-2 Sketching Concepts.** The exploration of freehand drawing as a means to communicate concepts and ideas through experimentation with pen and ink, marker, and colored pencils. Lecture and studio. Design 200 may be taken as a substitute with the consent of the coordinator. Prerequisite: 112, Art 110, GEC 205, or consent of coordinator.
- 222-3 Interior Design Presentation.** Methods, materials, and media are explored to find the most satisfactory way to present interior designs to clients. Lecture and studio. Prerequisite: 221 and Technical Careers 215b or consent of coordinator.
- 232-2 Electronic Technology.** Survey of the current electronic technology either for which or with which interior design is executed. Lecture. Prerequisite: 142, Computer Science 202, or consent of coordinator.
- 234-2 Materials and Finishes.** A study of materials and finishes other than those of a structural nature, including production methods, limitations, quality control, application, and uses. Lecture. Prerequisite: to be taken concurrently with 242 or consent of coordinator.
- 242-3 Interior Architectural Detailing.** Study of methods and materials of interior construction and graphic methods of communication of this information from the point of view of how

things go together. Focus is on commercial and contract interiors. Lecture and studio. Prerequisite: 142 or consent of coordinator.

262-2 History of Interior Design I. Summary of interiors, their furnishings, and buildings from antiquity to the 19th Century from the point of view of socio-economic, psychological, and philosophical rationales. Lecture. Prerequisite: Art 207 or consent of coordinator.

331-3 Textile Design. Study of textile design and hand printing methods in textile production including block print, silk screen, batik, and tie dye. Simple weaving techniques. Lecture and laboratory. Prerequisite: 131, or 231, or consent of instructor.

334-2 Interior Architectural Systems. Study of interior architectural mechanical equipment as it relates to the proximate environment. Emphasis is on heating, cooling, plumbing, and electrical systems with the attendant governing building codes. Lecture. Prerequisite: 242.

351-3 Interior Design Programming I. Methods for data gathering and analysis of project information from preliminary design stage. Lecture and studio. Prerequisite: junior standing with interior design major or consent of coordinator.

363-2 History of Interior Design II. Survey of interiors, their furnishings and buildings from the 19th century to the present from the point of view of socio-economic, psychological, and philosophical rationales. Lecture. Prerequisite: 262 or consent of coordinator.

371-1-6 Professional Internship. Supervised internship in interior design providing professional development of the intern through actual working conditions. Prerequisite: interior design majors within four semesters of graduation and consent of coordinator. Mandatory Pass/Fail.

383-3 Furniture Design and Fabrication. Study of furniture through evaluation, shop drawings, and actual construction. Issues include ergonomics, quality of materials, and methods of construction. Lecture and studio. Prerequisite: 234, 242, Vocational Education Studies 335, or consent of coordinator.

384-2 Lighting Design. Study of lighting as a major tool in designing interior spaces through actual problem solving. Emphasis is on task, ambient, and speciality lighting. Lecture and studio. Prerequisite: 222 and 242.

391-4 Interior Design I. Interior design of the personal environment at the individual level where client/owner and client/user are synonymous. Lecture and studio. Prerequisite: 222, 234, 242, or consent of coordinator.

392-4 Interior Design II. Interior design of the environment at the group level when client/owner and client/user are different. Emphasis is on public access spaces: e.g., restaurants, stores, museums. Lecture and studio. Prerequisite: 383, 391, or consent of coordinator.

406-3 Portfolio and Resume. An investigation and implementation of planning, production, and management of interface information such as resume and presentation of self and portfolio. Not for graduate credit. Prerequisite: senior standing or consent of coordinator.

462-3 Interior Design Seminar. Study of the current state-of-the art of interior design. Seminar. Not for graduate credit. Prerequisite: senior standing or consent of coordinator.

471-3 Professional Practice in Interior Design. Business principles of the practice of interior design including office systems, forms, and logistics of money and materials. Lecture and seminar. Not for graduate credit. Prerequisite: senior standing or consent of coordinator.

493-5 Interior Design III. Interior design of the environment at the corporate or institutional level where client/owner and client/user are significantly different. Emphasis is on furniture systems, particularly in the area of office planning. Lecture and studio. Not for graduate credit. Prerequisite: 383 and 392 or consent of coordinator.

495-1 Interior Design Programming II. Preliminary stage of senior design synthesis project, includes project discovery, data gathering, and analysis. Not for graduate credit. Prerequisite: 351 and 392.

496-5 Interior Design IV. Self-initiated interior design project of large scale, complex nature. Emphasis is on synthesizing all learning to date. Lecture and tutorial. Not for graduate credit. Prerequisite: 493 and 495.

Journalism (School, Major, Courses)

The School of Journalism prepares academically sound, technically proficient, and professionally responsible graduates for a wide range of mass communication careers. Depending on level and direction of studies, career tracks include: news-editorial and advertising work with newspapers, magazines, and other print and electronic news media; a variety of positions in the advertising industry; and research. The journalism major also provides well-balanced preparation for graduate studies in mass communication, the social sciences, and law.

The School of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communication, the agency formally recognized by the Council on Postsecondary Accreditation and the U.S. Office of Education.

Prospective students should be aware that excellent written and oral language skills are essential for successful careers in the journalism field. With this in mind, the School of Journalism has adopted admission and retention standards that emphasize language facility and academic proficiency.

Admission Standards

To be admitted to the School of Journalism, applicants must meet the following requirements:

Beginning freshmen must meet the University's regular admission requirements, as described in Chapter 2.

Transfer students who have completed fewer than twenty-six (26) semester hours must meet the requirements for beginning freshmen and have earned an overall collegiate grade point average of at least 2.25 (4.0 scale).

Transfer students who have completed more than twenty-six (26) semester hours must have earned an overall collegiate grade point average of at least 2.25.

Students currently enrolled or who were previously enrolled at SIUC in another major must meet the same requirements as transfer students. If they have completed more than twenty-six (26) semester hours they must have an overall grade point average of at least 2.25. Students with fewer than twenty-six (26) semester hours must meet beginning freshman requirements as well as have a grade point of at least 2.25.

Grade point average is calculated for purposes of admission to the School of Journalism by using all grades earned at SIUC and other collegiate institutions. This includes repeated courses.

Retention Policies

Students majoring in journalism must meet these retention requirements to continue their enrollment in the major:

Students who have completed twenty-six (26) semester hours or more must have an accumulative SIU grade point average of 2.25 or higher.

A grade of *C* or better is required in all journalism courses taken in order to be counted toward the major and to satisfy prerequisite requirements.

Students must complete successfully a Language Skills Examination as a prerequisite to a number of required courses in the journalism major.

Continuing, re-entering, or transfer students who have earned more than forty-five (45) semester hours of credit must complete the Language Skills Examination successfully during their first semester of enrollment in the School of Journalism. Beginning freshmen are encouraged to take this examination as soon as possible and no later than their third semester of attendance. No student will be permitted more than four attempts to complete this requirement. Each student is responsible for any fee that is required for taking this examination.

Students who are unable to meet these retention requirements will be placed in probationary status within the School of Journalism. These students will be given one semester to correct their deficiency prior to dismissal. Those who are dismissed from the School of Journalism but are eligible to continue in the University will be placed in the Undergraduate Academic Services or they may request permission to enter another collegiate unit.

Other Requirements

Journalism students must demonstrate typing ability of thirty (30) words per minute by receiving a passing grade in a typing course or on a typing examination specified by the School of Journalism before registering for Journalism 309 or 310. Those who cannot meet this requirement must enroll in a typing course and receive a grade of *C* or better.

Fees will be assessed for supplies and materials in some courses. Students should inquire about amounts before registering.

Subject to the approval of the School's director, undergraduate students may receive as many as nine (9) hours of journalism credit toward their degrees for courses not taken in residence.

Prior to the junior year the student must decide upon a specialization described below or obtain approval of a faculty sponsor and the school's director for another coherent combination of courses tailored to individual interest from the general requirements of the School of Journalism.

Bachelor of Science Degree, College of Communications and Fine Arts

The academic requirements for the Bachelor of Science degree in journalism include 30 to 36 hours in journalism as approved by the School of Journalism and 26 to 29 hours in junior-senior level course work in the College of Liberal Arts, the College of Science, the College of Business and Administration or other areas approved by the faculty.

Students will also complete a 15-hour minor in an area approved by the School of Journalism. Students who select a minor within the College of Liberal Arts or another approved area may include those hours in their 26-29 senior level hours.

While most students are best served by one of the following specializations, other programs of study in the major may be designed to meet special needs. Individualized programs might address such student interests as agricultural journalism, international communication, mass media institutions, and communication research. Such a specialized program of study must be sponsored by a journalism faculty member and approved by the director. Further information on specialized programs of study is available from the academic adviser.

ADVERTISING SPECIALIZATION

Students in the advertising specialization develop abilities to analyze problems and identify the roles advertising and other communications can play in solving them; develop tools for planning and executing advertising campaigns; and develop applied skills in verbal and visual communication. This program helps prepare students to enter a wide variety of positions with advertising agencies, in the communications media, and with retail or manufacturing firms.

NEWS-EDITORIAL SPECIALIZATION

Students in the news-editorial specialization receive realistic training in the theory and practice of identifying, gathering, processing, and interpreting information for the mass media. Areas of study include:

Newspaper: reporting, writing, and editing for daily, weekly, and suburban newspapers and news agencies; and news-related fields.

Magazines: writing, editing, and managing general and specialized magazines and similar publications.

Public affairs: news skills and values applied to relationships between mass media and information sources in government, business, and other institutions. Techniques, problems, and responsibilities of public information are studied.

<i>General Education Requirements</i>	46
<i>Requirements for a Major in Journalism</i>	30
Journalism 300	3
Specialization Requirements.....	27-33
Advertising Specialization: 309, 370, 372, 374, 405, 476, 479, plus journalism electives to bring total to 27-33.	
News-Editorial Specialization: 310, 311, 312, 442; two of 390,	

411, and a choice of 391 or 462; one of 400, 401, 405, 452, 479, plus journalism electives to bring total to 27-33.

Minor 15

Approved non-journalism electives (Must include Marketing 304 for Advertising Specialization) 29

Total 120

Minor

A total of 15 hours of journalism courses constitutes a minor for nonjournalism majors.

Courses

- 160-3 Mass Communication in Society.** Acquaints non-journalism students with the history and development of the American mass media. Examines media roles in society, potential for development, weak points, and the roles consumers can and should play regarding the media. This course may not be applied toward major or minor credit in Journalism.
- 300-3 Mass Media in Modern Society.** Develops an awareness of the pervasive nature of the mass media in our society and an understanding of how the media operate, with emphasis on contemporary social and economic problems in the media.
- 309-3 Advertising Copywriting.** Study and application of the principles of writing the verbal elements of advertising messages. Types of advertising include the following: retail, fashion, mail-order, catalog, direct-mail, trade and industrial, and outdoor. Students learn to write for both print and broadcast media. Prerequisite: successful completion of language skills examination and typing speed of at least thirty words per minute.
- 310-3 Writing for the Mass Media.** Study in the fundamentals of news writing, the techniques of news gathering and reporting, and the principles of editing with experience in the gathering, writing, rewriting, and editing of news copy. Prerequisite: typing speed of at least 30 words per minute and successful completion of the language skills examination.
- 311-3 Reporting and News Writing.** Purposes and effects of different orientations to the information gathering and news writing processes; information sources, interviewing, writing, and editing practices; laboratory in reporting, writing, and editing for the news media. Prerequisite: 310 and satisfactory score on language skills examination.
- 312-3 Editing and Makeup.** Principles of editing are combined with graphic concepts and techniques which interrelate printing processes, photography, writing of cutlines, picture page preparation, and page makeup, copyfitting, head schedules, newspaper organization, and the work flow on the ad and editorial sides. Prerequisite: 311.
- 313-3 Introduction to Photojournalism.** Fundamentals of publications photography. Includes basic camera technique, black and white film and print processing methods, selection and display of photographs, and evaluation of pictorial communication effects. Student supplies own photographic materials and, where possible, an adjustable camera. Prerequisite: consent of department. Open only to journalism majors. Students are responsible for purchase of supplies.
- 315-3 Graphic Communication.** History of printing and typographic development, modern reproduction processes, technological developments, selection and use of appropriate graphic images in communication, and production techniques for publications. Students are responsible for purchase of supplies.
- 360-3 Magazine Management and Production.** The day-to-day operations of a magazine and the techniques involved in producing a magazine. A combination of lectures and workshops in which the professor will deal individually with student projects. Each student will produce an original magazine idea and bring it to, at least, the semi-comprehensive stage of development. Prerequisite: 315.
- 370-3 Principles of Advertising.** An introduction to the processes of advertising and their functions in a marketing-communications environment; includes research, media, and message elements of advertising campaigns, governmental regulations, and social and economic considerations.
- 372-3 Advertising Media and Management.** Analysis of economic, social, and marketing factors and their use in developing advertising objectives and strategies. Examination of mass media systems as vehicles of advertising communication and the planning, buying, and scheduling of advertising media programs. Prerequisite: 370, Marketing 304.
- 374-3 Creating Advertising Messages.** Examination and practice in the development of advertising message strategies and the writing and design of advertising messages for television, radio, newspaper, magazine, outdoor, direct mail, etc. Students are responsible for purchase of supplies. Prerequisite: 309, 370, and satisfactory score on language skills examination.
- 390-3 Critical and Persuasive Writing.** The roles and responsibilities of the editor, editorial writer, and opinion columnist with emphasis upon editorial writing and critical thinking. Edit-

rial problems, methods, policies, style, and the fundamentals of persuasion and attitude change form the basis for study. Prerequisite: 311.

391-3 Feature Writing. Identification, research, and application of creative writing techniques with emphasis on newspaper articles. Analysis of reader appeal; study of feature story structure; development of style by practice in writing feature stories. Prerequisite: 311.

400-3 History of Journalism. Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

405-3 Introduction to Mass Communication Research. Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Not for graduate credit. Prerequisite: 309 or 310 or consent of instructor.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. Prerequisite: 311.

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

452-3 Ethics and News Media. An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications to the media and to society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

476-3 Advertising Campaigns. Application of advertising principles and techniques to the solution of a specific advertising problem facing a cooperating advertiser or advertising agency; problem analysis, development of strategy, media planning, message development, campaign presentation. Prerequisite: 372 and 374.

479-3 Social Issues and Advertising. Analysis of social issues involving advertising; economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international, and other problems and controversies. Prerequisite: senior standing.

490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings. Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Prerequisite: written consent of instructor and area head.

494-1 to 3 Practicum. Study, observation, and participation in publication or broadcast activities. Prerequisite: consent of instructor and area head. Mandatory Pass/Fail for undergraduates.

495-1 to 12 (1 to 6, 1 to 6) Proseminar. Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

Language Arts (English and Reading) (Major)

(SEE CURRICULUM AND INSTRUCTION)

Law Enforcement (Program, Major)

Law enforcement today demands a wide range of knowledge and ability to meet the complexities of modern society. This program is designed both for the individual entering the profession and for persons already serving in law enforcement who wish to upgrade their skills.

Students in this program will not be taught "police skills" that are taught in a police academy, such as firearms or personal defense. They will learn methods of

prime control, criminal behavior, methods of crime detection, community problems in law enforcement, criminal law, and police administration. They will develop an understanding of people and of interpersonal relationships.

The student will spend one term prior to graduation working under supervision with a police agency.

Police officers may enroll in the program on a part-time basis with the assurance that faculty members will help them to arrange classes compatibly with their duty schedules.

Full transfer of credit is guaranteed to students who have completed certificate programs in law enforcement at cooperating community colleges.

This program is served by an advisory committee of professionals representing law enforcement, corrections, law, and private security. The program benefits from the expertise of each member as they may advise the program on courses of study relevant to the ever changing criminal justice field.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in a combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Law Enforcement

GEB 108, 114, 202	9
GED 101, 102, 153	9
Law Enforcement 103, 105, 108, 115, 205, 209, 210, 220, 221, 395.....	36
Electives.....	9
Total	63

Courses

103-3 Introduction to Criminal Justice. Enables the student to understand the workings of the criminal justice system and is the foundation course for the correctional services and law enforcement programs. Upon completion of this course, the student will have an understanding of the processes from arrest through imprisonment enabling assimilation of progressive courses such as criminal law and criminal behavioral theories. Lecture three hours.

104-3 Treatment Methods in Criminal Justice. The general goal of this course is to introduce to the student several treatment methods utilized in the criminal justice system. The student will briefly examine several treatment modalities and will discuss transactional analysis in detail. Other course items will include participation in a treatment group and a trip to a maximum security prison. Participation is required in many group exercises that may be scheduled at times other than regularly scheduled class time. These group exercises should help the student gain a working knowledge of treatment methods and group processes. Lecture three hours.

105-3 Criminal Behavior. Will enable the student to understand the psychological and sociological forces that make up criminal behavior. Upon completion of this course the student will have the knowledge to complete studies of the behavioral field in other disciplines of the University such as criminology. Lecture three hours.

106-3 Treatment Practicum. Will enable the successful student to apply the techniques learned in 104 in actual therapeutic settings and groups in area social service agencies and correctional institutions. Upon completion of this course, the successful student will be prepared to assist in leadership of therapeutic or treatment modalities and will have the ability to use these skills in human service agencies. Lecture three hours. Prerequisite: 104.

108-3 Supervision in Criminal Justice. The criminal justice supervisor's role in discipline, intradepartmental relations, problem-handling, and personnel policies. Problems relating to supervisory relationships, wages, grievances, morale, and safety. Lecture three hours.

115-3 Interpersonal Relations in Criminal Justice. Enables the student to develop a better understanding of people, their motivations, and their behavior patterns. A specific emphasis of this course is on individual and organizational intrapersonal and interpersonal relations. Upon successful completion of this course, each student should have developed the skills necessary for positive interaction with individuals in the free society and within a setting of incarceration. Participation in group exercises at times other than regularly scheduled class time is required. Lecture three hours.

203-3 Introduction to Security. An introduction to public and private security issues with a directed emphasis on industrial and retail security, loss prevention, physical security, and design.

205-3 Criminal Investigation. Enables the student to examine the major theories and techniques of criminal investigation. Upon successful completion of the course, the student should have an understanding of the techniques of criminal investigation and how these techniques can be applied to various types of investigations. The student should learn the value of adequate preservation, collection, and handling of physical evidence. Lecture three hours.

209-3 Criminal Law I. Enables the student to understand the due process functions of the criminal law. Upon completion of this course the student will be able to use a law library and will have an understanding of the laws of arrest, search and seizure, and evidence including recent Supreme Court decisions affecting daily work assignments. This course is also a foundation for Criminal Law II where the substantive law is covered. Lecture three hours.

210-3 Criminal Law II. Will enable the student to apply the law of due process (constitutional law) to the study of substantive law including Illinois state penal code and the Illinois Corrections Code. Upon completion of this course the student will have a working knowledge of how both the penal and corrections codes of the state enables society to successfully prosecute violators of the law. The student will also be able to brief cases pertaining to criminal and correctional law. Lecture three hours. Prerequisite: 209.

218-3 Introduction to Corrections. Will enable the student to develop an understanding of current problems (drugs, racial tension, subcultures) in correctional institutions; foundation of corrections in America; effect of recent court decisions and inmate population on correctional institutions; relationship of correctional services to the criminal justice system. Lecture three hours.

220-3 Probation, Parole, and Community Based Corrections. Will enable the student to understand the concept of alternatives to incarceration. The benefits and workings of probation and parole will be examined and the student will be exposed to the casework method utilized in these areas. The student will learn of alternatives to incarceration that are community based and of the need for community involvement and support for these efforts. Lecture three hours. Prerequisite: 103.

221-3 Police Administration. Principles of organization and modern management as applied to law enforcement agencies. The course will provide the student with an introduction to organizational theory, organizational behavior and administration. Special attention will be paid to the objectives of police operation and some of the factors lying ahead in the field of police administration. Lecture three hours. Prerequisite: 103 and 108.

271-3 The Security Survey: Loss Prevention Applications. Emphasis is to identify various operations within a retailing environment that could be enhanced when appropriate (internal/external) security and control measures are introduced. Topics to be addressed include how to identify the origins of inventory shrinkage, inventory control and management techniques, internal pilferage/theft problems, anti-shoplifting strategies, and methods to assess internal and external threats. Prerequisite: 203 or consent of instructor.

395-9 Internship in Criminal Justice Practice. The pre-service student will be exposed to the operations of a criminal justice agency through an eight-week internship in that agency under supervision. Upon completion of the internship the student will have been exposed to all aspects of the agency and reinforce the student's attitudes toward that particular area of criminal justice. (Internship: 40 hours per week for eight weeks.) Prerequisite: sophomore standing and fifteen hours of credit in correctional services/law enforcement courses.

Liberal Arts (College, Courses)

Courses

105-3 Law in American Society. Faculty from the Departments of Economics, History, Philosophy, Political Science, Psychology, and Sociology consider the ways in which law affects American society. Topics such as students' rights, civil disobedience, crime, obscenity, and labor-management relations will be explored through lectures, discussion groups, guest speakers, and media presentation. Recommended for students who want to explore how the law works in society, and who want to consider possible careers in law.

303-1 to 9 (1 to 3 per semester) Interdisciplinary Studies. Offered in a variety of forms, including lectures, readings, research, or field study. Initiated by at least two faculty members from different departments. Approval by the dean is required during the semester prior to its offering. May be repeated to equal a total of nine credits.

310-3 Values in the Living World – Life, Normalcy, and the Natural. Intended for students who are interested in examining individual and social values which pertain to those professions based upon the biological sciences; e.g., medicine, nursing, zoology, forestry, etc.

311-3 Values in the Communication Arts. The aim of this course is to examine, by means of readings, films and guest lecturers, some value perspectives of contemporary American life. This will be done in terms of ethical-aesthetic ideals and actual practices to be encountered in the public's most accessible and influential media; i.e., cinema, radio, television, and journalism.

312-3 Applied Values in Society. A consideration of value problems and dilemmas faced by individuals in social science-based professions such as counseling, social welfare, administration of justice, etc. Among the problems to be considered are agency or corporate loyalty vs. individual conscience; individual good vs. social good; and professional ethics vs. individual ethics.

388-1 to 36 Study Abroad. Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. One to eighteen hours may be earned per semester, one to nine hours may be earned for summer session. Prerequisite: one year of residence at Southern Illinois University at Carbondale, good academic standing, and prior approval of the major department and the College of Liberal Arts.

Linguistics (Department, Major, Course)

The objective of the undergraduate major in linguistics is to provide broad, general training in theoretical and applied linguistics. The major is designed to help students achieve an awareness of the language systems of the past, and appreciation of human modes of communication, a fundamental understanding of the ever-changing linguistic environment in which they live, and the processes by which language is acquired. Moreover, education in linguistic methods trains a student to think analytically, to evaluate hypotheses, and to propose new solutions. The analytical models of linguistics have, since the 1930's, been recognized by other disciplines (notably anthropology, psychology, and sociology) as significant research paradigms. Linguistic theory has also been enriched by insights and models from other disciplines. Students are encouraged to use their elective hours to explore the related areas of anthropology, communication disorders and sciences, computer science, English, foreign languages, mathematics, philosophy, psychology, sociology, speech communication, and statistics.

The major in linguistics consists of a minimum of 32 semester hours comprising: (1) 16-18 semester hours in a core of basic courses in general linguistics, 300 or 401, 402a, 403 or 405, 406, 408; and (2) various structured alternatives, dependent on whether the student is more interested in theoretical or applied linguistics. Students concentrating on theoretical linguistics are advised to take 9 semester hours of 415, 440, and either 430 or 450, plus 6 or 7 semester hours of departmental electives. Students concentrating on applied linguistics are advised to take 8 semester hours of 453, 454, 455, plus 8 semester hours of 456, 415, and 445.

There is a foreign language requirement, potentially overlapping the College of Liberal Arts requirements, as follows: (1) one year of an uncommon or non-Western language, or (2) two years of any foreign language. Students planning graduate study in linguistics should take three years of foreign language study.

Bachelor of Arts Degree, College of Liberal Arts

General Education Requirements.....	46
College of Liberal Arts Academic Requirements (See Chapter 3.)	(4) + 8-14
Requirements for Major in Linguistics	32
Linguistics 300 or 401, 402a, 403 or 405, 406, 408	16-18
Theoretical Linguistics Electives: Courses selected from Linguistics 415, 440, and 430 or 450, plus departmental electives	14-16
or	
Applied Linguistics Electives: Courses selected from Linguistics 453, 454, 455, and 8 hours from: 456, 415, 445.....	14-16
Foreign Language Requirements (overlapping with college requirements)	10-16
Electives.....	12-24
Total	120

Minor

The Department of Linguistics offers two minors: one in linguistics and one in uncommon languages.

LINGUISTICS

The minor in linguistics (a minimum of 15 hours) draws upon the basic courses of the Department of Linguistics. It introduces the student to the structure of language, the historical development of languages, and the relation of language to the rest of culture. A minor in linguistics would be of special interest to students in anthropology, computer science, English, foreign languages and literatures, mathematics, philosophy, psychology, sociology, speech communication, and communication disorders and sciences.

Requirements for the minor in linguistics: (1) 300 or 401; (2) at least two courses (6-8 hours) from among the following: 402a, 403, 405, 406, 408; (3) additional courses from among the following to complete at least 15 hours: 402b, 404, 415, 430, 431, 440, 450, 453, 497.

UNCOMMON LANGUAGES

The minor in uncommon languages consists of a minimum of 15 hours at 200-level or above of an uncommon language offered by the Department of Linguistics. For specific languages, see course offerings.

Courses

100-6 (3, 3) Oral English for Foreign Students. Four class hours of oral English and one hour in-class composition. An elective of foreign students admitted to the University in a graduate or undergraduate program. Cannot substitute for Linguistics 101, 102, or 103, but may be taken concurrently. May be taken singly.

101-3 Basic English Composition for Foreign Students. Instruction in the basic methods of English composition, focusing on the particular problems of foreign students. Techniques of analyzing, summarizing, outlining, documenting, synthesizing, and revising. Basic English grammar relevant to composition problems of foreign students. Equivalent to GED 101. Limited to foreign students selected by proficiency exam on entrance.

104-2 Grammar in Language. Description and explanation of the major grammatical categories and structures found in a wide variety of languages, including English. Consideration of the role of language structures in such topics as the nature, origin, acquisition, and variation of language. Course is designed to give students insight into the basic concepts of grammar and show their interrelationship, importance, and functioning in human language.

105-3 English Composition for Foreign Students. Instruction in academic and technical writing for foreign students. Includes practice in library research, analyzing, summarizing, business and technical writing, and writing of reports, research papers, and projects. Limited to foreign students. Prerequisite: 101 or equivalent.

200-3 Introduction to the Nature of Language. An exploration of social and psychological dimensions of language. Topics include first and second language learning, change in language, the interaction of language and culture, and the importance of language for human development and communication. A variety of the world's languages is examined with particular emphasis on English and its role in international science, trade, technology, and government.

210-10 (5, 5) Elementary Uncommon Languages. Introduction to the basic skills of listening, speaking, reading, writing, and the fundamentals of grammar. Must be taken in sequence. (a-b) Vietnamese.

290-3 Advanced English Composition for Foreign Students. Substitutes for English 290 for international students. Designed for foreign graduate and undergraduate students who need further work in composition in English as a foreign language (EFL) beyond their entering TOEFL scores or successful completion of Linguistics 101 and either 102 or 103. Both group activities and individualized supervision will be provided. Prerequisite: 101 and either 102 or 103; or graduate status.

300-3 Introduction to Descriptive Linguistics. An introductory survey of synchronic, descriptive linguistics: assumptions, methods, goals, terminology, and data manipulation.

321-3 Survey of Vietnamese Literature in Translation. Lectures and collateral readings in representative works of Vietnamese literature (poetry and prose) in English translation, with attention to literary genres and analyses of major works by poets, novelists, and playwrights writing

in Chinese characters, demotic characters, or the romanized script from the 10th century until the modern period.

330-3 Language and Behavior. A wide-ranging examination of the implications of language study for people's view of themselves and their place in the world. Topics deal with the pervasiveness of verbal and non-verbal language in various aspects of modern society.

341-3 Introduction to Intercultural Communication. (See Speech Communication 341.)

401-4 General Linguistics. Basic concepts and methods of general linguistics. Fundamentals of the nature, structure, and functioning of language. Data manipulation and problem solving.

402-6 (3, 3) Phonetics. (a) Theory and practice of articulatory phonetics. (b) Theory and practice of instrumental phonetics. Prerequisite: 402a.

403-3 English Phonology. Study of English phonology, both American and British, including phonetics, phonemics and prosodics. Prerequisite: 300 or 401, and 402a, or consent of department.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics.

405-4 Phonological Theories. A survey of various phonological theories involving the phoneme from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspective of the different theories. Prerequisite: 300 or 401, and 402a.

406-3 Introduction to Historical Linguistics. An introductory survey of historical and comparative linguistics, including terminology, assumptions, and methods of investigation. Prerequisite: 403 or 405; 408 recommended.

408-4 Syntactic Theory. Basic concepts and formalisms of transformational generative grammar. Data manipulation and problem-solving in English syntax. Prerequisite: 300 or 401 or consent of department.

410-10 (5, 5) Intermediate Uncommon Languages. Review of the structure of modern spoken language. Introduction to written language. Emphasis on conversational style. The first semester carries undergraduate credit only. (g-h) Vietnamese. Prerequisite: 210 or equivalent.

411-3 The Linguistic Structure of Chinese. (See Chinese 410.)

412-3 The Linguistic Structure of Japanese. (See Japanese 410.)

413-3 Linguistic Structure of French. (See French 411.)

415-3 Sociolinguistics. History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of department.

420-8 (4, 4) Advanced Uncommon Languages. Advanced conversation and reading of third-year level materials in preparation for classes conducted in the language. (g-h) Vietnamese. Prerequisite: 410 or equivalent.

430-3 to 6 (3, 3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

431-3 Structure of the English Verb. An analysis of the English verb system. Special study of the modals and non-finites.

440-1 to 6 (1 to 3 per topic) Topics in Linguistics. Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

442-3 Language Planning. Survey of the field of language planning: definitions and typologies, language problems, language treatment, attitudes and beliefs about language, relations between language planning processes and other kinds of social and economic planning, linguistic innovations and other processes of language change, implementation of language policies. Prerequisite: 401, 402a.

445-4 Introduction to Psycholinguistics. (Same as Psychology 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain.

450-3 to 6 (3, 3) Language Families. A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of department.

453-4 Methods in Teaching English as a Second Language. Introduces the basic methods of teaching English as a second language, specifically as part of bilingual programs, and presents the theoretical premises and background from the fields of general linguistics, contrastive linguistics, psycholinguistics, education, and sociolinguistics. Prerequisite: undergraduate status.

454-2 Observation and Practice in TESL. Lessons in teaching English as a second language are modeled and demonstrated live and via video-tape. In addition to microteaching and other peer-teaching, students observe ESL/EFL classes and laboratories and do tutoring and practice teaching under supervision as schedulable. Enrollment limited to undergraduates. Prerequisite: 453 or concurrent enrollment or consent of department. Mandatory Pass/Fail.

455-2 Materials in TESL. Examination and criticism of currently used textbooks in ESL and bilingual education programs, as well as other printed materials and visual and mechanical aids in teaching English as a second language. Enrollment limited to undergraduates. Prerequisite: 453 or consent of department.

456-3 Contrastive and Error Analysis. Examination of the interference of other languages into the English of ESL learners on the levels of phonetics, phonology, morphology, syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors, and development of techniques for correction. Enrollment limited to undergraduates. Prerequisite: 453 or consent of department.

489-1 Seminar in Developmental Psycho-Neurolinguistics. Explores current issues in the area of developmental psycholinguistics and neurolinguistics. Included will be normal language use and development, as well as disordered language use and development; foreign/second as well as first language will be included. Development will be interpreted to mean life span. Prerequisite: consent of instructor.

497-1 to 8 Readings in Linguistics. Directed readings in selected topics. Prerequisite: consent of department and undergraduate status.

Management (Department, Major, Courses)

The Department of Management prepares students for careers in both profit and non-profit organizations in such fields as business and industry, government, education, and health. The curriculum places emphasis on the development of knowledge and skills necessary for effective problem solving and decision making to achieve the goals of the organization and manage resources effectively.

The curriculum prepares students through a variety of disciplines and offers valuable knowledge, tools, and techniques that provide a broad exposure to the key function of management. The courses, designed to impact technical, technological, and human resources management skills, prepare students to manage modern organizations successfully. A choice of two specializations within the management major is available to students. They are management and entrepreneurship.

Management. Administrators make and implement decisions through and with people working together toward the achievement of common societal, organizational, and personal goals. Understanding the organizational and environmental factors that influence individuals and groups, particularly in work settings, is critical to the success of managers and other employees. By carefully selecting courses, students can satisfy the general requirements of a management major, and orient their programs of study toward career tracks in general management, production-operations, management information systems, or personnel management. In each case, opportunities exist to pursue interests in administrative applications to a wider variety of organizational settings including government, health, and education, as well as small and large business.

Entrepreneurship. Entrepreneurship is the acceptance of risk in the management and direction of a venture. This specialization explores the special problems associated with the operation of an independent and often small business venture. Students may select courses relating to the special problems and techniques appropriate to the task of venture management in preparation for ownership and management roles in their own or a family business venture. By careful selection of courses from different areas of management, students can select the appropriate courses that will prepare them for their future positions in manufacturing, service, or retailing organizations. Research and consulting positions are also alternatives available to students with this specialization as well as the direction of new ventures for larger organizations.

Students majoring in other areas such as accounting, finance, or marketing can

obtain a double major in management which will facilitate upward mobility in their careers.

Bachelor of Science Degree, College of Business and Administration

<i>General Education Requirements</i>	46
<i>Professional Business Core (See Chapter 3.)</i>	40
<i>Requirements for Major in Management</i>	21
Specializations (Choose one)	
<i>Management.</i>	
Required: Management 341, 345, 352, 361, 431	
Elective: Select two from Management 385, 453, 456, 474, 483, 485	
<i>Entrepreneurship.</i>	
Required: Management 350, 471, Finance 350, Marketing 350	
Electives: Select three from 341, 345, 361, 485, or an approved sequence such as insurance or real estate	
<i>Electives</i>	13
<i>Total</i>	120

Courses

- 170-3 Introduction to Business.** Survey of business. General knowledge of the modern business world, the composition and functions of the business organization, as well as business as a social institution. Open only to freshmen and sophomores. Does not satisfy a College of Business and Administration requirement.
- 202-3 Business Communications.** Creating and managing administrative communications including the analysis, planning, and practice of composing different types of internal and external communications in various administrative and business contexts. All students must pass a 202 Competency Exam prior to enrolling for the course. The exam is administered by Testing Services for a fee. Incidental expenses not to exceed \$50. Prerequisite: GED 101 and 102, or equivalent.
- 208-3 Business Data Analysis.** (Same as Economics 208.) Uses of business data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.
- 300-3 Internship in Management.** Supervised work experience that relates to the student's academic program and career objectives. Not repeatable for credit. Prerequisite: junior standing and consent of department and must be a business (not prebusiness) major. Mandatory Pass/Fail.
- 301-3 Supervisory Management.** Functions of management and the requisites for effective supervision are emphasized by way of application to practical situations. For non-business majors who expect to assume supervisory responsibility where successful allocation and evaluation of human resources are necessary. Does not satisfy a College of Business and Administration requirement. Prerequisite: junior standing or consent of department.
- 304-3 Introduction to Management.** Basic concepts of the administrative process are considered with emphasis on executive action to develop policy, direction, and control based on traditional and behavioral science approaches to decision making. Prerequisite: junior standing or consent of department.
- 318-3 Production-Operations Management.** An introduction to the design, operation, and control of systems or processes by which materials, labor, and capital are combined in an organized way with the objective of producing goods or services. Topical coverage includes the systems concept, planning, forecasting, job design, location, layout, logistics, scheduling, production, inventory, quality, labor, and cost control. Prerequisite: Economics 208, Mathematics 140, Computer Science 212 or Computer Information Processing 229 or equivalent, junior standing or consent of department and must be a business (not prebusiness) major.
- 341-3 Organizational Behavior.** The study of human problems in administration including the analyses of individual, group, and inter-group relations under a broad range of organizational settings. Theory and case analyses. Prerequisite: 304, Economics 208, and junior standing or consent of department and must be a business (not prebusiness) major.
- 345-3 Computer-Based Information Systems.** Integrates topics of management and organization, information, computers, and the systems approach. Emphasizes planning, design, and implementation of information systems to aid management decision making. Application of computer techniques to develop, manipulate, and analyze system models. Prerequisite: 318 and junior standing or consent of department and must be a business (not prebusiness) major.
- 350-3 Small Business Management.** Identification of small business, its importance and rela-

tionship to the United States economy and the opportunities and requirements unique to operation and management. Personal characteristics, interpersonal relationships, organizational systems, and decision-making processes are examined for their contribution to the success or failure of the firm. Prerequisite: junior standing or consent of department and must be a business (not prebusiness) major.

352-3 Quantitative Models for Systems Analysis. An introduction to mathematical model building in organizations and the solution techniques commonly used to solve such models. Topical coverage includes decision theory, mathematical programming, inventory models, queuing models and simulation. Prerequisite: Economics 208, Mathematics 140 or equivalent and Computer Science 212 or Computer Information Processing 229 or equivalent, junior standing or consent of department and must be a business (not prebusiness) major.

361-3 Applied Managerial Research. Design of research to assist managerial decision making. Concepts, tools, sources, and methods of research. Planning, collecting, organizing, evaluating, and presenting research data. Prerequisite: 202, 304, Economics 208 and junior standing or consent of department and must be a business (not prebusiness) major.

385-3 Personnel and Human Resources Management. An introduction to the development, application, and evaluation of policies, procedures, and programs for the recruitment, selection, development, and utilization of human resources in an organization. Prerequisite: 304 or equivalent, introductory statistics, and junior standing or consent of department and must be a business (not prebusiness) major.

402-1 Strategies for Seeking Employment. The job placement process and the work environment from the viewpoint of the applicant. Emphasis on career planning, manpower analysis, placement and interviewing techniques with a stress on the transition from the academic community to the business and professional environment. Not offered for graduate credit. Prerequisite: senior standing or consent of department. Mandatory Pass/Fail.

431-3 Organizational Design and Structures. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaption of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department and must be a business (not prebusiness) major.

453-3 Advanced Quantitative Models for Systems Analysis. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department and must be a business (not prebusiness) major.

456-3 Building Decision Systems Support. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Prerequisite: 345, 352, and junior standing or consent of department and must be a business (not prebusiness) major.

471-3 Seminar in Entrepreneurship. Investigation of selected special or advanced topics in seminar format. Topics may include but are not limited to entrepreneurship, small business analysis, or topics related to the ownership and management of a business. Activities will include library and field research, data analysis, report writing, and active participation in seminar presentations and discussions. Designed particularly for the student who has completed the three small business courses numbered 350 and has discussed personal small business or entrepreneurial objectives with the instructor prior to registration. Prerequisite: consent of department and must be a business (not prebusiness) major.

474-3 Management's Responsibility in Society. Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department and must be a business (not prebusiness) major.

481-3 Administrative Policy. Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, Finance 330, Marketing 304, or equivalent and must be a business (not prebusiness) major.

483-3 Advanced Production-Operations Management. In-depth study of analytical planning, scheduling, and control theory and techniques in the context of production/operations systems. Case exercises will be utilized to illustrate production management problems and methods. Prerequisite: 318, 352, junior standing or consent of department and must be a business (not prebusiness) major.

485-3 Organizational Change and Development. Analysis of problems in personnel management with emphasis on current trends and techniques. Case problems, special reports, and experiential approaches are used as a basis for examining ways of using an organizations' human resources to best advantage. Prerequisite: 341, junior standing or consent of department and must be a business (not prebusiness) major.

489-3 Seminar. Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary admin-

istration, health services administration, data processing management, current issues in management, etc. Prerequisite: consent of department and must be a business (not prebusiness) major.

491-1 to 6 Independent Study. Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department and must be a business (not prebusiness) major.

Manufacturing Systems (Major [Graduate Only])

Marketing (Department, Major, Courses)

Marketing involves a system of interrelated activities used to develop, price, promote and distribute goods and services to customers, creating exchanges that satisfy individual and organizational goals. It is the marketing function that links the production of goods and services with their use. Effective marketing is essential to organizations in their efforts to achieve a competitive advantage that can be sustained. Without this, growth and survival of the organization are threatened.

The bachelor's degree program in marketing encompasses all of the key marketing functions. Graduates are fully equipped to take advantage of challenging and dynamic career opportunities in large and small businesses, in government, and in non-profit organizations. Careers in the field of marketing cut across many industries and involve a variety of organizations. Some of the career options open to the marketing major include industrial selling and sales management, retailing, advertising, marketing research, distribution, international marketing and marketing management.

A C or better grade is required for all marketing majors in all marketing courses taken to satisfy major requirements.

Bachelor of Science Degree, College of Business and Administration

General Education Requirements.....	46
Professional Business Core (See Chapter 3.).....	40
Requirements for Major in Marketing.....	24
Marketing 305, 329, 363, 390, 493	15
Marketing Electives	9
Electives	10
Total	120

Courses

- 304-3 Marketing Management.** Management of the firm's marketing function within a dynamic operating environment. Includes study of such functions as product development, promotion, channel selection, logistics, and market research. A C or better grade required in 304 before enrolling in any course for which 304 is a prerequisite. Prerequisite: junior standing or higher and must be a business (not prebusiness) major or consent of department.
- 305-3 Consumer Behavior.** Examines underlying psychological, sociological, and economic factors which influence consumer behavior. Studies the impact of marketing activities on society, consumerism and legislation affecting the marketplace. Prerequisite: junior standing or higher and must be a business (not prebusiness) major or consent of department.
- 329-3 Marketing Channels.** The methods and processes used in the distribution of consumer and industrial products and services. Emphasis is upon the ways in which certain basic distribution functions are carried out in the integrated channel system. The role of a variety of manufacturers, wholesalers and retailers as parts of this system is analyzed. Prerequisite: 304 and junior standing or higher and must be a business (not prebusiness) major or consent of department.
- 336-3 International Business.** Business activities of firms and social organizations are examined in an international environment. The course will examine the fundamental concepts, and principles of international business. It will focus on the international environment as the international dimension of marketing, financial, accounting, managerial, and production functions. Pre-

requisite: 304, junior standing or higher and must be a business (not prebusiness) major or consent of department.

350-3 Small Business Marketing. Deals with principles involved in locating market opportunities and developing growth plans for businesses requiring a relatively low initial capital investment. Taught from the point of view of the owner-manager relying heavily upon case examples of successful entrepreneurship. Not approved as elective for marketing majors. Prerequisite: junior standing or higher and must be a business (not prebusiness) major or consent of department.

363-3 Promotional Concepts. The role of promotional activities in the firm's marketing function — advertising, personal selling, sales promotion, and publicity. The relationship of consumer behavior to the area of promotion. Prerequisite: 304 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

390-3 Marketing Research and Analysis. The basic procedures and theories appropriate to solving various types of marketing problems in the context of business organization and decision models. Prerequisite: 304 and Economics 208 or equivalent and junior standing or higher and must be a business (not prebusiness) major or consent of department.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through managerial perspective. Prerequisite: 304 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgment criteria of the sales function in relationship to the total marketing program. Prerequisite: 304 and Management 304 or 301 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

439-3 Industrial Marketing. Analysis of decision criteria related to the marketing of industrial products. Emphasis on program development, formulation of a marketing mix, and the behavioral relationships in the modern industrial organization. Prerequisite: 304 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 and junior standing or higher, or consent of the department and must be a business (not prebusiness) major or consent of department.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher and must be a business (not prebusiness) major or consent of department.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher and must be a business (not prebusiness) major or consent of department.

499-1 to 6 (1 to 3, 1 to 3) Marketing Insights. Provides the student an opportunity to participate in an internship program, independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Prerequisite: junior standing or higher, and approval of the instructor and the department chair in the semester prior to enrollment and must be a business (not prebusiness) major or consent of department.

Mathematics (Department, Major, Courses)

Opportunities for mathematics majors have expanded greatly in recent years. Mathematics majors become actuaries, statisticians, mathematical computer scientists, applied mathematicians, operations research analysts and mathematical researchers. Mathematics is growing and changing and holds fascinating challenges for inquiring minds.

As an undergraduate mathematics major at Southern Illinois University at Carbondale, you may work toward a Bachelor of Science degree in the College of Science or the College of Education, or a Bachelor of Arts degree in the College of Liberal Arts. The classes in the mathematics major curriculum are small and are taught by senior faculty members. A strong support system of college and departmental advisement is available to you at SIUC throughout the year.

A student planning for employment with a bachelor's degree should consider a

minor or a second major in some field in which mathematics is applied. Many students earn a double major in mathematics and computer science. All of the bachelor's degree programs in mathematics, including the Bachelor of Science degree in the College of Education, have sufficient flexibility to allow you to prepare for alternate career possibilities.

To prepare to major in mathematics at SIUC, you should have a solid high school preparation in algebra, geometry in two and three dimensions, and trigonometry, including a substantial study of functions and graphing. Students transferring to SIUC after two years at a community college should have completed the calculus sequence and, if possible, linear algebra and a course in Pascal or Fortran programming.

As a mathematics major at SIUC, you will meet with a Department of Mathematics advisor at least once each semester for planning and departmental approval of courses appropriate to your goals and interests.

A grade of C or better is required in every mathematics course used to satisfy departmental requirements.

Double majors in mathematics and related fields.

Special provisions are made for students to earn a double major in mathematics and a field in which mathematics is extensively applied. The courses Math 447, 449, 471, 472, and 475 carry credit in both mathematics and computer science. See Bachelor of Arts Degree, College of Liberal Arts for specific requirements in mathematics for students who also earn a major or minor in computer science.

For students who also have a major in engineering, physics, or chemistry, the requirements for a major in mathematics are Math 150, 221, 250, 251, 305 and five additional mathematics courses numbered above 300, including at least three courses above 400, and including two of the three areas of algebra, analysis, probability and statistics. The courses must be approved by a mathematics department adviser.

Students majoring in business and administration with a secondary concentration in mathematics may obtain a second major in mathematics. The requirements are Mathematics 150, 250, 251, 221, and five approved mathematics courses at the 300-400 level, of which at least four are at the 400-level. Recommended courses for this program are Mathematics 361, 471, 472, 483, 484, Management 352, 453, 456; Economics 315, 465; Finance 310, 331, and 341.

Bachelor of Science Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Academic College Requirements</i>	16
Physical Sciences (not GEA)	6 ¹
Biological Sciences (not GEA)	6 ¹
Foreign Language (French, German, or Russian recommended) ..	(4) ² + 4
<i>Requirements for Major in Mathematics</i>	36
Mathematics 150, 221, 250, 251	(3) ¹ + 11
Computer Science 202 and 311F, or approved substitutes	4
At least one course from each of the following groups: (One area may be waived for students who have a minor in computer science)	12
Group A: Algebra/Discrete Mathematics/Linear Algebra 319, 419, 421, 447, 449	
Group B: Analysis 352, 450, 452, 455	

¹The 46 hour requirement is reduced by taking science and mathematics courses which are approved substitutes for General Education requirements.

²Four hours of foreign language may be applied toward General Education requirements.

Group C: Applied Mathematics/Numerical Analysis

305, 361, 471, 472, 475A

Group D: Probability/Statistics

380, 480, 483

Three additional courses in mathematics numbered above 299

(excluding 311, 314, 319E, 352E, 400, 411, 412, 457, 458) 9

Each student's program must include at least 4 mathematics courses at the 400 level.

Courses taken Pass/Fail will not count toward the major.

Electives 22

Total 120

Bachelor of Arts Degree, College of Liberal Arts

General Education Requirements 46

Academic College Requirements 7

English Composition 3

Foreign Language (4) + 4

Requirements for Major in Mathematics 36

Mathematics 150, 250, 251, 221 (3) + 11

Computer Science 202 and 311F, or approved substitutes 4

At least one course from each of the following groups: (One area may be waived for students who have a major or minor in computer science) 12

Group A: Algebra/Discrete Mathematics/Linear Algebra

319, 419, 421, 447, 449

Group B: Analysis

352, 450, 452, 455

Group C: Applied Mathematics/Numerical Analysis

305, 361, 471, 472, 475A

Group D: Probability/Statistics

380, 480, 483

Three additional courses in mathematics numbered above 299

(excluding 311, 314, 319E, 352E, 400, 411, 412, 457, 458) 9

Each student's program must include at least 4 mathematics courses at the 400 level

Courses taken Pass/Fail will not count toward the major.

Secondary Concentration Requirements 6-9

Six to nine hours approved by the Department of Mathematics in one of the following areas: engineering, computer science, physics, economics, business and administration. A minor in any department of the College of Liberal Arts or the College of Science may be substituted for this requirement.

Electives 22-25

Total 120

Bachelor of Science Degree, College of Education

Students in the College of Education with a major in mathematics must plan schedules of mathematics courses numbered above 199 with a mathematics adviser. Grades must be at least C in mathematics courses used to satisfy these requirements.

General Education Requirements 46¹

Must include GEB 114, 202, and 301; GEC 213; GED 101 and 102; GED 152 or 153; GEE 201

¹See Catalog section titled Curriculum and Instruction for specific certification requirements.

<i>Requirements for Major in Mathematics</i>	39
Mathematics 150, 250, 251 or 305.	(3) + 8
Mathematics 221.	3
A student may take some of the above courses by proficiency examination.	
Computer Science 202 and 311F, or approved substitutes	4
Mathematics 311, 319, (or 419), 335, and 352 (or 452)	13
Mathematics 319E and 352E.	2
At least 3 additional mathematics courses numbered above 399	9
<i>Professional Education Requirement</i>	25
See Teacher Education Program, Chapter 3.	
<i>Electives</i>	10
<i>Total</i>	120

Unconditional admission into the Teacher Education Program in mathematics requires a 2.5 average in mathematics courses numbered above 149, including a grade of *C* or better in at least two mathematics courses numbered above 299 (not including Mathematics 311, 314, 400, 411, or 412).

Approval for student teaching requires a grade of *C* or better in Mathematics 311 and a 2.25 average in mathematics courses numbered above 299, including a grade of *C* or better in at least four other mathematics courses (not including Mathematics 314, 400, 411 or 412.) Students with a minor in mathematics must also meet this requirement to student teach in mathematics.

Minor

A non-teaching minor consists of Mathematics 150, or 140, or equivalent and 12 hours of mathematics credit at the 200 level or above, including at least one course at the 400 level (excluding 311, 314, 400, 411, 412, 457, and 458). Courses should be approved by a mathematics departmental adviser. Elementary and secondary education students interested in a mathematics minor should see a mathematics departmental education adviser to obtain a current list of specific requirements. A grade of *C* or better must be earned in all courses used to meet minor requirements.

Honors

Mathematics 395 and 495 are used for individual honors work for upper level undergraduates in mathematics. Honors sections of Mathematics 150 and 250 are offered as demand permits.

Courses

A hand-held calculator with function keys appropriate to the course is required of each student in 108, 109, 111, 114, 116, 117, 139, 140, 141, 150, 250, 251, 282, and 283. The student should consult the instructor of the course about appropriate calculators.

108-3 College Algebra. The algebra of functions (polynomials, rational, exponential, logarithmic), graphing, conic sections, solving equations including systems. Credit is not given for both 108 and 111. Prerequisite: GED 107 or two years of college preparatory mathematics including the content of algebra I and II.

109-3 Trigonometry and Analytic Geometry. Trigonometric and inverse trigonometric functions, complex numbers, conic sections, polar coordinates. Credit is not given for both 109 and 111. Prerequisite: 108 or equivalent.

111-5 Precalculus. An intensive course in college algebra and trigonometry for students who plan to take Calculus I. The algebra of functions (polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric), graphing, conic sections, solving equations including systems, complex numbers, polar coordinates. Not open to students with credit in 108 or 109. Prerequisite: three years of college preparatory mathematics, including algebra I, algebra II, and geometry.

114-4 Algebraic and Arithmetic Systems. Whole numbers, integers, rational numbers, real

numbers, numeration systems, algorithms, number theory, metric system, elementary algebra, probability. Successful completion of this course requires a passing grade on a basic skills test of minimal mathematical proficiency. This course can be used to satisfy the mathematics requirements in General Education. Prerequisite: one year of high school algebra or GED 106 or equivalent.

116-5 Finite Mathematics and Algebra. Topics from intermediate algebra and college algebra, systems of linear equations, matrix algebra, Gauss-Jordan row reduction, linear programming, elementary probability theory, emphasis on business applications. Credit is not given for both 116 and 139. If there is prior credit in GED 107, Mathematics 108 or 111, only 3 hours of credit for 116 may be applied to graduation requirements. This course can be used to satisfy the mathematics requirement in General Education. Prerequisite: one year of high school algebra or GED 106.

117-5 Finite Mathematics and Calculus. A continuation of 116. Topics in algebra, elementary differential calculus, max-min problems emphasizing business applications, partial derivatives, elementary integral calculus with applications in economics. Credit hours for both 117 and 140 or for both 117 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 117 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: 116.

139-3 Finite Mathematics. Set concepts and operations, combinations, permutations, elementary probability theory including Bayes formula, linear systems of equations, matrix algebra, Gauss-Jordan row reduction, introduction to linear programming. Credit is not given for both 116 and 139. Prerequisite: GED 107 or one and one-half years of high school algebra.

140-4 Short Course in Calculus. Techniques of differentiation, increasing and decreasing functions, curve sketching, max-min problems in business and social science; partial derivatives, Lagrange multipliers, elementary techniques of integration. Credit hours for both 117 and 140 or for both 140 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 140 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: GED 107 or one and one-half years of high school algebra.

141-4 Short Course in Calculus for Biological Sciences. Basic techniques of differentiation and integration. Population and organism growth problems solved by using calculus. Translation of problems in the biological sciences into mathematical problems. Credit hours for both 141 and 117 or for both 141 and 140 may not be applied to fulfillment of degree requirements. No credit hours for 141 may be applied to fulfillment of degree requirements if there is prior credit in 150. Prerequisite: 111 or equivalent.

150-4 Calculus I. Treatment of the major concepts and techniques of single-variable calculus, with careful statements but few proofs. Differential and integral calculus of the elementary functions with associated analytic geometry. If there is prior credit in 140, 117, or 141, only 2 hours credit for 150 may be applied to graduation requirements. Prerequisite: 111 or equivalent.

215-3 Discrete Structures I. (Same as Computer Science 215.) Number systems and computer arithmetic. Sets, relations, and functions. Boolean algebra with applications to computer logic design. Elementary matrix operations. Combinations, permutations, and counting techniques. Prerequisite: 108 or equivalent.

221-3 Introduction to Linear Algebra. Vector spaces, linear functions, systems of equations, dimensions, determinants, eigenvalues, quadratic forms. Prerequisite: 150.

250-4 Calculus II. Develops the techniques of single-variable calculus begun in Calculus I and extends the concepts of function, limit, derivative, and integral to functions of more than one variable. The treatment is intuitive, as in Calculus I. Techniques of integration, introduction to multivariate calculus, elements of infinite series. Prerequisite: 150.

251-3 Calculus III. Further topics in calculus. Definite integrals over solid regions, applications of partial derivatives, vectors and vector operations, derivatives of vector functions, line integrals. Green's theorem. Prerequisite: 250.

257-1 to 12 Concurrent Work Experience. As an instructional aide, the student will do tutoring under the direction of an established teacher and under the supervision of a representative of the Department of Mathematics. Prerequisite: consent of department. Mandatory Pass/Fail.

282-3 Introduction to Statistics. Designed to introduce beginning students to basic concepts, techniques, and applications of statistics. Topics include the following: organization and display of data, measures of location and dispersion, elementary probability, statistical estimation, and parametric and nonparametric tests of hypotheses. Prerequisite: three semester hours of college mathematics beyond general education mathematics; e.g. any of 111, 117, 139.

283-3 Introduction to Applied Statistics. This course is experiment motivated, uses real-work data, and computer analysis of data. Statistical concepts discussed are descriptive statistics, elementary probability, expectation, sampling distributions, statistical estimation and testing, confidence intervals, correlation and regression, and contingency tables. The student is given experience in writing reports of experiments. Prerequisite: 140.

305-3 Introduction to Ordinary Differential Equations I. Solution techniques for differential equations with emphasis on second order equations, applications to physical sciences, series solutions. Prerequisite: 250.

306-3 Introduction to Ordinary Differential Equations II. Laplace transforms and Fourier series with applications to ordinary and partial differential equations. Systems of first order differential equations, stability. Prerequisite: 305 or consent of instructor.

311-4 Teaching of Secondary Mathematics. The nature and objectives of the secondary mathematics curriculum. Particular attention is given to the means of introducing new ideas into the high school program. For students preparing to be certified teachers of secondary mathematics. Three lectures and two laboratory hours per week. Does not count toward a mathematics major in the College of Liberal Arts or in the College of the Science. Prerequisite: 319, 319E, and 335.

314-3 Geometry for Elementary Teachers. Congruence, similarity; parallelism, perpendicularity; measurement; area, volume; ratio and proportion; constructions; proof. May not be used to satisfy requirements for a mathematics major. Prerequisite: 114 or consent of department.

319-3 Introduction to Abstract Algebra. Basic properties of groups and rings: Binary operations, groups, subgroups, permutations, cyclic groups, isomorphisms, Cayley's theorem, direct products, cosets, normal subgroups, factor groups, homomorphisms, rings, integral domains. Prerequisite: 221; plus for secondary education majors, concurrent enrollment in 319E.

319E-1 Modern Algebra as Applied to the Secondary Schools. Two hours per week. The applicability of the concepts of modern algebra, particularly the field axioms and the function concept, to the secondary curriculum. Prerequisite: concurrent enrollment in 319. Mandatory Pass/Fail.

335-3 Concepts of Geometry. Introduction to the foundations of Euclidean and non-Euclidean geometry with an emphasis on axiom systems, models, and counterexamples. Topics include metric geometry, betweenness, plane separation, congruence, absolute plane geometry, the critical function, and parallelism. Prerequisite: 221 or 250.

352-3 Introduction to Analysis. A rigorous treatment of concepts introduced in elementary calculus, such as the real number system, limits and continuity, derivatives, integration, transcendental functions. Prerequisite: 221, 250; plus for secondary education majors, concurrent enrollment in 352E.

352E-1 Analysis as Applied to the Secondary Schools. Two hours per week. Sequences, series, infinite decimals, continuity. Applications to the secondary curriculum. Prerequisite: concurrent enrollment in 352. Mandatory Pass/Fail.

361-3 Numerical Calculus. (Same as Computer Science 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: 221 and 250 and a working knowledge of FORTRAN.

380-3 Elements of Probability. Probability as a mathematical system. Axioms, permutations and combinations, random variables, generating functions, limit theorems, and Monte Carlo procedure. Prerequisite: 250 and Computer Science 202.

395-1 to 6 Readings in Mathematics. Supervised reading in selected subjects. Prerequisite: 3.00 grade point average in mathematics and consent of chairperson.

400-3 History of Mathematics. An introduction to the development of major mathematics concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 306.

406-3 Eigenfunction Analysis. Discrete and continuous models for the vibrating string; separation of variables and eigenfunction analysis; inner product spaces; operators on inner product spaces; the spectral theorem for Hermitian operators on finite dimensional spaces with applications; the Courant-Fisher max-min characterization of eigenvalues; the spectral theorem for compact Hermitian operators with applications to Sturm-Liouville boundary value problems and Fredholm integral equations. Prerequisite: 221 and 305.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle. Poisson's integral, fundamental solution of the heat equation. Prerequisite: 251, 305.

409-3 Introduction to Fourier Analysis. The Fourier synthesis and analysis equations for functions on the real line, the circle, the integers, and the regular N-gon; convolution; techniques for finding Fourier transforms; operators associated with Fourier analysis; the FFT and FHT algorithms and fast convolution; generalized functions; applications to probability, partial differential equations, linear systems, and numerical analysis. Prerequisite: 221 and 305.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and

proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

417-3 Applied Matrix Theory. Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted toward a graduate degree in mathematics. Prerequisite: 139 or 221 or consent of department.

419-3 Introduction to Abstract Algebra II. Solvable groups, maximal ideals, basis and dimension, elementary field extension theory, splitting fields, geometric constructions, elementary Galois theory, Galois group of a polynomial, solution of equations in radicals. Prerequisite: 319 or consent of instructor.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department.

433-3 Introduction to Topology. Study of continuity, convergence, compactness, and completeness in the context of metric spaces. Prerequisite: 352 or consent of department.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in \mathbb{R}^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 251 and 221.

447-3 Introduction to Graph Theory. (Same as Computer Science 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 221 and 319 or Computer Science 315.

449-3 Introduction to Combinatorics. (Same as Computer Science 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 319 or Computer Science 315 or consent of instructor.

450-3 Methods of Advanced Calculus. Sequences and series of functions; partial differentiation; Jacobians; the implicit function theorem; the classical differential operators in general curvilinear coordinates; line, surface, and volume integrals, the divergence and Stokes' theorems; transformation of variables in multiple integrals; integrals containing a parameter. Prerequisite: 251.

452-3 Introduction to Analysis. A rigorous development of one-variable calculus concepts including the real numbers, sets, limits of sequences, continuity of functions, differentiation, Riemann-Stieltjes integration, series of functions at a more advanced level than 352. Prerequisite: 251.

455-3 Introduction to Complex Analysis and Applications. Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series. Laurent series, polar and essential singularities, analytic continuation, contour integration, residue theorem, conformal mapping. Prerequisite: 251.

457-3 Methods of Quantitative Analysis. (Same as Business Administration 451.) Introductory survey of basic quantitative methods necessary for graduate study in business; designed for students with deficiencies in methods of quantitative analysis. Course consists of introduction to calculus, matrix algebra, and probability. Extensive use is made of business examples. Prerequisite: enrollment in Master of Business Administration program or consent of department; Math 108 or equivalent.

458-3 Statistical Methods in Business. Descriptive statistics, probability distributions, statistical estimation and hypothesis testing with business applications, chi-square tests, linear regression, analysis of variance, index numbers, interpretation of computer output. Prerequisite: 457 or equivalent and graduate standing in College of Business and Administration, or consent of department.

460-3 Transformation Geometry. Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319.

471-3 Introduction to Optimization Techniques. (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250. Computer Science 202.

472-3 Linear Programming. (Same as Computer Science 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202.

473-3 Reliability Theory. Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement

policies, optimal replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: 480 or 483, or consent of department.

475-6 (3, 3) Numerical Analysis. (Same as Computer Science 464.) An introduction to the theory and practice of computation with special emphasis on methods useful with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, numerical differentiation and integration, solution of differential equations, matrix calculations and the solution of systems of linear equations. Prerequisite: (a) 221 and 250 and a working knowledge of FORTRAN; (b) 305 and 475a.

480-4 Introduction to Probability. A comprehensive introduction to probability theory at a level suited to upper-division undergraduates and first-year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulas, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers. Prerequisite: 251.

481-3 Elements of Stochastic Processes. An introduction, including normal, Poisson, and Markov processes. Prerequisite: 380 or 480.

483-4 Mathematical Statistics in Engineering and Physical Sciences I. Introduction to statistical theory with applications in engineering and the physical sciences. Probability: axioms, distributions including noncentral distributions, moments and moment generating functions, order statistics. Statistical inference: point and interval estimation, testing hypotheses, likelihood ratio tests. Prerequisite: 250.

484-4 Mathematical Statistics in Engineering and Physical Sciences II. An introduction to linear models and the design of experiments with applications in engineering and the physical sciences. Analysis of the general linear model, basic designs and criteria, response surface analysis and factor analysis. Statistical computation. Prerequisite: 483 and 221, or consent of instructor.

485-3 Applied Statistical Analysis. Elements of survey sampling including simple random and stratified sampling, ratio and regression estimates; elements of nonparametric methods including the sign, Wilcoxon and Kruskal-Wallis tests; analysis of categorical data including loglinear models. Prerequisite: 480 or 483 or consent of instructor.

495-1 to 6 Special Topics in Mathematics. Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chairperson and instructor.

Mechanical Engineering and Energy Processes

(Department)

The Department of Mechanical Engineering and Energy Processes offers the Mechanical Engineering major which is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

MECHANICAL ENGINEERING (Major, Courses)

Mechanical engineering is one of the most broadly based of the traditional engineering disciplines. Mechanical engineers design and develop a wide variety of systems for conversion, transmission, and utilization of energy; for material processing and handling and packaging; for transportation; for environmental control; and for many other purposes for the benefit of humanity. Therefore the curriculum contains a broad foundation in mathematics and the basic and engineering sciences, followed by more concentrated study in energy and machine systems.

Mechanical engineers may be found in a variety of assignments including planning and design, research and development, supervision of installation and operation of complex systems, and management.

Bachelor of Science Degree, College of Engineering and Technology

<i>General Education Requirements</i>	31 ¹
GEA: Substitute basic science	
GEB: GEB 105, 301, and one of GEB 108, 114, 202 or 211.	9 ^{2,3}
GEC: Select one of GEC 101, 102, or 208; plus 345 and either	

122 or 330	9 ^{2,3}
GED: GED 101, 102, 152 or 153 and substitute mathematics	9
GEE: two hours of health and two hours of physical education activity	4
<i>Requirements for Major in Mechanical Engineering</i>	102
Basic Sciences	18
Physics 205a,b; 255a,b	8
Chemistry 222a and 222c	7
GEA 115	3
Mathematics Analysis	17
Mathematics 150, 250, 251, 305	14
Engineering 351	3
Mechanical Engineering	67
General: Engineering 102, 222, 361, 400	7
Required Engineering Sciences ⁴	29
Engineering 260a,b, 300, 302, 311, 312, 313 and 335; Mechanical Engineering 310 and either 301 or 400	
Required Mixed Engineering Science/Design ⁵	6
Mechanical Engineering 470 and 475	
Required Engineering Design ⁴	7
Mechanical Engineering 402 and 443 ⁶	
Required Engineering Laboratory	3
Mechanical Engineering 303 and either 401 or 403	
Elective Engineering Design Credit ⁴	5
Select five hours (shown in parentheses) of design credit from the following courses: Mechanical Engineering 404 (2 hours), 406 (2 hours), 408 (1 hour), 416 (1 hour), 435 (2 hours), 436 (1 hour) 440 (2 hours), 442 (2 hours), 446 (1 hour), 472 (2 hours), 476 (2 hours)	
Elective Engineering Science Credit	4
Select four hours of Engineering Science credit from ap- proved senior engineering courses ⁷	
Approved Technical Electives ⁷	6
<i>Total</i>	133

¹Courses required for the major will apply toward 15 hours of General Education, making a total of 46 in that area.

²Engineering requirements for GEB and GEC are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the General Education requirements for engineering students.

⁴Engineering sciences have their roots in mathematics and basic sciences, but carry that knowledge toward creative design. Engineering design is the process of devising a system, component, or process using basic and engineering sciences, mathematics and creative thinking along with economic, safety, and environmental considerations.

⁵Mechanical Engineering 475 represents 2 hours of engineering design and 1 hour of engineering science credit. Mechanical Engineering 470 represents 2 hours of engineering science and 1 hour of engineering design credit.

⁶Mechanical Engineering 443 represents 3 hours of design credit and 1 hour of general engineering technical credit.

⁷Credit hours not used for required engineering design credit in the above list under elective engineering design may be used for engineering science electives or for technical elective credit. Consult department adviser for approved course list-
ing.

Courses

Safety glasses, an electronic calculator, and textbooks are required of all mechanical engineering students.

301-3 Engineering Thermodynamics II. Combined first and second law analysis; availability and reversibility. Third Law. General thermodynamic relations. Reactive systems. Thermodynamic equilibrium. Phase Rule. Applications. Thermodynamics of one dimensional fluid flow. Pre-requisite: Engineering 300.

303-2 Introductory Measurement, Instrumentation, and Device Control Laboratory. Experiments applicable to the use of modern microprocessor based electronic equipment for data ac-

quisition, interpretation, and control in mechanical devices. Discussion of basic electronics applications. Prerequisite: Engineering 335.

310-3 Mechanisms/Kinematics. Introduction to the kinematics of machines. Topics include absolute and relative displacement, velocity, and acceleration and calculation methods. Applications include linkages, gears, gear train, cams, rotary to/from linear motion transformation mechanisms, steady-to-intermittent motion mechanisms. Introduction of general purposes program for modeling of mechanical systems. Prerequisite: Engineering 222 and 260b.

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis and turbo-machinery. Prerequisite: Engineering 300.

401-1 Thermal Measurements Laboratory. Study of basic physical measurements used in the thermal sciences. Calibration techniques for temperature and pressure sensors. Thermal measurements under transient and steady-state conditions. Applications include conduction, convection, and radiation experiments. Uncertainty analysis. The handling and reduction of data. Prerequisite: Engineering 222 and 302.

402-3 Heat Exchange Equipment Design. Engineering design of heat exchange equipment such as boilers, evaporators, cooling towers, furnaces, and systems involving combinations of conduction, convection and radiation mechanisms. Emphasis is placed on application of basic principles of heat transfer and fluid mechanics to the design of heat exchange equipment. Student are encouraged to work "open-ended" problems with multiple possible solutions. Prerequisite: Engineering 222, 302, and 313.

403-1 Mechanical Engineering Measurements Laboratory. Laboratory to familiarize students with the use of instruments to measure time, distance, velocity, acceleration, strain, fluid flow, and turbulence. Instruments include micrometers, laser distance meters, stroboscopes, oscilloscopes, incremental rotary encoder, LVDT, load cells, accelerometers, analog/digital converters, pressure transducers, and related equipment. Prerequisite: 303, Engineering 311 and 313.

404-4 Optimization of Process Systems. Simulation and optimization of process systems based upon engineering science and economic fundamentals. Analysis and correlation of experimental engineering data and use of correlated data in simulation, design and decision making. Design of systems using economics and continuous and discrete optimization methods encountered in engineering practice. Use of the computer is required. Prerequisite: Engineering 361, Mathematics 305 and senior standing in engineering.

405-3 Internal Combustion Engines and Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: Engineering 300.

406-3 Thermal Systems Design. Applications of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigeration, air conditioning, spacecraft thermal control, and cogeneration. Numerical analysis and solution of an open-ended design problem. Prerequisite: Engineering 222, 300, and 302.

408-3 Energy Conversion Systems. Principles of advanced energy conversion systems; nuclear power plants, combined cycles, magnetohydropower, cogeneration (electricity and process steam), and heat pumps. Constraints on design and use of energy conversion systems; energy resources, environmental effects, and economics. Prerequisite: Engineering 301 or 400.

410-3 Applied Chemical Thermodynamics and Kinetics. Designed for students interested in chemical and environmental processes and materials science. Topics covered include applications of the Second and Third Laws of Thermodynamics, solution theory, phase equilibria, sources and uses of thermodynamic data, classical reaction rate theory, kinetic mechanisms, and the determination of rate-determining steps in chemical reactions. Prerequisite: Chemistry 222, Engineering 300 or consent of instructor.

416-3 Air Pollution Control. Engineering control theory, procedure, equipment, and economics related to control of particulate, gaseous, and toxic air emissions. The environmental impacts due both to controlling and not controlling emissions are considered. Understanding of the basics is evaluated as students design control equipment, specify and troubleshoot control systems and predict the impacts for each major type of control system. Prerequisite: Senior standing.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

430-3 Kinematic Synthesis. Kinematic synthesis of linkages, single loop and multiple loop mechanisms, and geared linkages. Vector synthesis of spatial mechanism and its computer simulation. Prerequisite: 310.

435-3 Design of Mass Transfer Processes. Design principles of mass transfer processes. The rate mechanism of molecular, convective, and interphase mass diffusion. The design of selected industrial mass transport process operations such as absorption, humidification, water-cooling, drying, and distillation. Prerequisite: Engineering 302.

436-3 Mechanical Systems Control. Mathematical modelling of controls for mechanical sys-

tems. Dynamic behavior of controlled machines. Design of controlled mechanical systems. Prerequisite: 303 and 470 or consent of instructor.

440-3 Heating, Ventilating, and Air Conditioning Systems Design. Principles of human thermal comfort. Heating and cooling load analysis. HVAC system design. Air conditioning processes. Prerequisite: Engineering 300, 302.

442-3 Passive Solar Design. Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Prerequisite: Engineering 300, 302.

443-4 Engineering Design. Mechanical design of process systems including costing and scheduling. Project design definition may include layouts, instrumentation, electrical systems, fluid flow, piping, heat exchange equipment, motors, pressure vessels, pumps, compressors, and concrete and steel structure design and/or specification. Cost factors leading to an optimal system design will be considered. Not for graduate credit. Prerequisite: senior standing in mechanical engineering.

446-3 Energy Management. Fundamentals and various levels of analysis for energy management of commercial buildings and industrial processes and buildings. Use of energy management systems and economic evaluations are required in course projects. Prerequisite: Engineering 300, 302, and 313.

462-3 Physical Metallurgy. Structure of metals. Dislocation theory and plasticity. Solid state diffusion. Thermodynamics of solutions and phase diagrams. Phase transformations. Fracture mechanics. Creep and fatigue. Prerequisite: Engineering 222 and 312.

463-3 Introduction to Ceramics. Structure and physical properties, mechanical properties, processing and design of ceramics. Prerequisite: Engineering 312 or equivalent.

465-3 Materials Preparation and Processing. Forming and processing of materials. Solidification: single crystal techniques, plane front and dendritic solidification, microsegregation, non-equilibrium structures. Vapor deposition: fractionation, physical vapor deposition, ion plating, sputtering. Thermal processing of solids: homogenization, crystallization, precipitation. Powder preparation, sintering, and densification. Deformation processing: rolling, forging, extrusion, drawing, preferred orientation. Prerequisite: 462.

470-3 Simulation and Control of Machines. Dynamic simulation and control of machines. Vibration analysis of mechanical systems, applications of La Place transform to modeling mechanical systems, transfer functions, and open/closed loops. Response of basis control systems. Prerequisite: Engineering 260b and Mathematics 305.

472-3 Materials Selection for Design. Interaction of material design process with material selection criteria. Comparison of materials properties, processes, and fabrication. Project work includes design models, material selection rationale, oral presentation of projects, construction of mock-up models, and theoretical design problems in the area of the student's specialization. Prerequisite: Engineering 222, 312.

475-3 Machine Design I. Design of machines using bearings, belts, clutches, chains, and brakes. Develops application of the theory of fatigue, power transmission, and lubrication to the analysis and design of machine elements. Prerequisite: 310, Engineering 222 and 311.

476-3 Machine Design II. Design of machines using gears, springs, screws and fasteners, and adhesives. Matching power sources to driven machines. Prerequisite: 475.

492-1 to 5 Special Problems in Engineering. Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

Medical Education Preparation (Courses)

Courses

400-1 to 6 (1 per semester) MEDPREP Seminar. Seminar on social, professional, and scientific issues of interest to students planning a career in medicine or dentistry. Topics: (a) orientation; (b) medical/dental seminar. Required of MEDPREP participants. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students. Must be taken in a,b sequence. Mandatory Pass/Fail.

401-1 to 20 (1 to 2 per area) MEDPREP Basic Skills. Focus on skills critical for academic success in preprofessional and professional training. Areas: (a) learning skills; (b) science process skills; (c) quantitative skills; (d) perceptual motor skills; (e) interpersonal skills; (f) reading skills; (g) written communication skills; (h) vocabulary skills; (i) speed reading; (j) other. All areas required or proficiency demonstrated within the first year in program. Not for graduate credit. Prerequisite: restricted to MEDPREP students. Areas c, e, f, g, and i are Mandatory Pass/Fail.

402-1 to 12 (1 to 2 per topic) MEDPREP Special Problems. Seminars, workshops, lectures, and field experiences related to preparing the student for medical/dental school and careers in medicine or dentistry. Topics: (a) MCAT/DAT orientation; (b) research seminar; (c) clinical experi-

405-1 to 4 (1 to 2, 1 to 2) MEDPREP Physics Tutorial. Depending on individual need content will be remedial, supplementary to concurrent preprofessional physics courses or additional permitting acceleration. Sections will correspond to two semester physics sequences. May be taken for graduate credit only with written permission of the relevant department and the graduate dean. Prerequisite: restricted to MEDPREP students.

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	7
Mathematics 108 and 109 or 111 (or its equivalent), or 140	(3) + 3
Foreign Languages	(4) + 4
<i>Requirements for Major in Microbiology</i>	62
Microbiology 301, 302.	7
Microbiology electives: senior level work consisting of a minimum of 15 semester hours of lecture courses with at least six credits from each of the following two groups, Group 1: 403, 421, 441, and 451; Group 2: 421 (421 can be used for either	

Group 1 or Group 2, but not for both), 425, 460, 470; and a minimum of eight semester hours of laboratory courses.	23
Biology 305 and one from Biology 306, 307, 308, or 309.	6 ²
Chemistry 222a,b, 344, 345, 346, 347.	18 ²
Physics 203a,b, and 253a,b.	8 ²
<i>Electives</i>	5
<i>Total</i>	120

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.

²These courses will meet the biological and physical science requirements for the College of Science and may be substituted for a maximum of 12 hours in General Education.

Minor

A minor in microbiology consists of 16 semester hours, to include 301, 302, and other courses determined by the student in consultation with the microbiology adviser.

Courses

201-4 Elementary Microbiology. Basic concepts of microbiology, classification, metabolic activity and the effect of physical and chemical agents on microbial populations. Host-parasite interactions. Infectious agents, particularly as they affect the oral cavity; methods of transmission and control. Prerequisite: for students of dental hygiene.

301-4 Principles of Microbiology. Morphology, structure, metabolism, population dynamics, and heredity of the microbial agents with emphasis on pure culture methods of study of bacteria, viruses, and related organisms. Three hours lecture, three hours laboratory. Fall semester. Prerequisite: one year of college chemistry and GEA 115, or equivalent.

302-3 Molecular Biology. Molecular structure, dynamics, and genetics of living cells and viruses, with particular attention to the transfer of biological information. Spring semester. Prerequisite: 301 or Biology 305.

403-3 Medical Microbiology Lecture. A survey of the more common bacterial, mycotic and viral infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Fall semester. Prerequisite: 301.

404-2 Medical Microbiology Laboratory. Procedures for the collection and handling of medical specimens for microbial examination, cultivation and identification of pathogenic microorganisms by their morphological, biochemical, and serological characteristics. Four hours laboratory. Fall semester. Prerequisite: 403 or concurrent enrollment.

421-3 Biotechnology. Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Prerequisite: 302.

425-3 Biochemistry and Physiology of Microorganisms Lecture. Chemical composition, cellular structure, and metabolism of microorganisms. Prerequisite: organic chemistry.

426-2 Biochemistry and Physiology of Microorganisms Laboratory. Laboratory course to study techniques for investigating the chemical composition, cellular structure and metabolism of microorganisms. Prerequisite: 425 or concurrent enrollment, organic chemistry.

441-3 Virology Lecture. General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected viral diseases of animals. Prerequisite: 301 and 302.

442-2 Virology Laboratory. Tissue culture methods, multiplication and assay of animal and bacterial viruses, purification, electron microscopy, interference, immunity. Five hours laboratory. Prerequisite: 441 or concurrent enrollment.

451-3 Immunology Lecture. Natural and acquired immunity. Antigens, antibodies, and antigen-antibody reactions in vitro and in vivo. Three hours lecture. Prerequisite: 403.

452-2 Immunology Laboratory. Natural defense mechanism and immune response, preparation of antigens and antibodies, serological reactions, conjugated antibodies, electrophoresis, immunological reactions in vivo. Five hours laboratory. Prerequisite: 451 or concurrent enrollment.

460-3 Genetics of Bacteria and Viruses Lecture. Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing, and reactivation phenomena. Three hours lecture. Prerequisite: 301.

461-3 Genetics of Bacteria and Viruses Laboratory. Use of bacteria, plasmids and viruses in transduction, genetic mapping, transposon mutagenesis, and the construction of gene fusions. Performing *in vitro* DNA manipulations such as restriction enzyme mapping, construction of gene libraries, and subcloning. Six hours laboratory. Prerequisite: 460 or concurrent enrollment.

- 470-3 Procaryotic Diversity.** A consideration of the major groups of procaryotes with special emphasis on their comparative physiology and biochemistry. Prerequisite: 301 or equivalent.
- 471-2 Procaryotic Diversity Laboratory.** Principles of bacterial nutrition, preparation of microbial growth media, enrichment, isolation, and characterization of aerobic and anaerobic bacteria from natural habitats. Five hours laboratory per week. Prerequisite: 470 or concurrent enrollment.
- 490-1 to 3 Undergraduate Research Participation.** Investigation of a problem either individually or as part of a research group under the direction of a member of the faculty. Not for graduate credit. Prerequisite: 3.0 grade point average in microbiology and consent of instructor.

Mining Engineering (Department, Major, Courses)

Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral and coal processing, material handling systems, mineral economics, mine health and safety engineering, operations research, and computer-aided mine design. Facilities include modern, well-equipped rock mechanics, mine ventilation and mineral processing laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level. The mining engineering major is accredited by the Accreditation Board for Engineering and Technology (ABET).

Bachelor of Science Degree, College of Engineering and Technology

General Education Requirements	31 ¹
GEA: Substitute basic science	
GEB: GEB 105, 301, and one of GEB 108, 114, 202 or 211	9 ^{2,3}
GEC: Select one of GEC 101, 102, or 208; plus 122 and 345 or 330 and 345	9 ^{2,3}
GED: GED 101, 102, 153 and substitute mathematics.....	9
GEE: two hours of health and two hours of physical education activity	4
Requirements for Major in Mining Engineering	104
Basic Sciences	24
Physics 205a,b; 255a,b	8
Chemistry 222a,c	7
Geology 220, 390.....	6
GEA: 115	3
Mathematics 150, 250, 251, 305, and approved elective-3	17
Engineering.....	63
General: Engineering 102, 222, 361, 400.....	7
Engineering Science	37
Engineering 260a,b, 300, 311, 313, 335, 385; Mining Engineering 400; 405 ⁶ ; A maximum of 1 hour in each of these courses will count toward the requirement: Mining Engineering 435, 455. A maximum of 1½ hours in each of these courses will count toward the requirement: Mining Engineering 410, 425. A maximum of 2 hours in each of these courses will count toward the requirement: Mining Engineering 320, 415, 420, 431	

Engineering Design ⁴	19
Mining Engineering 440, 475. A maximum of 1 hour in each of these courses will count toward the requirement: Mining Engineering 320, 415 or 418, 420, 431, 455. A maximum of 1½ hours in each of these courses will count toward the requirement: Mining Engineering 410, 425. A maximum of 2 hours in each of these courses will count toward the requirement: Mining Engineering 435. Select one of the following: Mining Engineering 460, 465.	
Total	135

¹Courses required for the major will apply toward 15 hours of General Education, making a total 46 in that area.

²Engineering requirements for GEB and GEC are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in humanities or social sciences which includes a junior level course or (b) meet the General Education requirements for engineering students.

⁴Engineering sciences have their roots in mathematics and basic sciences, but carry that knowledge toward creative design. Engineering design is the process of devising a system, component, or process using basic and engineering sciences, mathematics, and creative thinking along with economic, safety, and environmental considerations.

⁵The field trip should be taken in the spring break of the junior or senior year.

Courses

Safety glasses, an electronic calculator, and textbooks are required of all mining engineering students.

320-3 Surveying for Engineers. Analysis and application of tacheometry and mine correlation. Aerial surveying. Engineering design of haulage curves. Production measurement. Geophysical and borehole surveying. Land-Surveying. Laboratory. Prerequisite: Mathematics 251, junior standing in engineering.

400-3 Principles of Mining Engineering. Basic principles of mineral exploration, development, and processing. Environmental problems related to mineral development. Prerequisite: junior standing in engineering.

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

405-1 Field Trip. Visit several mining operations and prepare a report. Not for graduate credit. Prerequisite: 400 and Geology 390.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: 320, 400, Geology 390.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-2 Mine Power Systems. Study of electrical, hydraulic and pneumatic mine power systems. Selection and design of power systems and their components. Related economics and decision making criteria. Prerequisite: 410, and Engineering 385, or equivalent, or consent of instructor.

415-3 Surface Mining and Land Reclamation. Surface mining systems for coal and non-coal minerals. Development of mining operations, equipment selection, mine planning and design, land reclamation, erosion and sedimentation control. Prerequisite: 320, 400, Geology 390.

418-3 Mining of Ore Deposits. Analysis, planning, and design of surface hardrock mines and underground mining system. Analysis of mining and equipment costs. Prerequisite: 320, 400, and Geology 390.

420-3 Mineral and Coal Processing. Impurities in coal and their impact on the market. Impurities liberation and separation methods. Product preparation. Coal washability characteristics. Flow sheet development. Recovery of minerals from tailings, slurry ponds and mine waste. Economics of mineral processing. Laboratory. Prerequisite: 400, Geology 390.

425-3 Mine Ventilation Systems Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Laboratory. Prerequisite: 410 and Engineering 313.

431-3 Rock Mechanics and Ground Control. Analysis of stress and strain, elementary elasticity, stress distribution around mine openings and pillars, engineering properties of rocks, support of mine workings, subsidence, design of mine openings. Laboratory. Prerequisite: 410 and Engineering 311.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: 410, 415, Engineering 222 and 361.

440-3 Design of Material Handling Systems. Study of material handling systems selection. Systems design and development. Material handling economics. Prerequisite: 410, 415 or concurrent enrollment, Engineering 361.

455-2 Mine Health and Safety Engineering. Analysis of mine hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods, and health hazard control plans. Prerequisite: 410, and 415.

460-3 Computer-Aided Underground Mine Design Projects. Projects in planning and design of underground mining systems. Evaluate and design mining subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to closure. One lecture and two two-hour laboratories per week. Prerequisite: 420, 425, 431, 440, or consent of instructor.

465-3 Computer-Aided Surface Mine Design Projects. Projects in planning and design of surface mining systems. Evaluate a potential mine site; select appropriate mining methods; define and design mining and reclamation subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to bond release. One lecture and two two-hour laboratories per week. Prerequisite: 415, 420, 431, 440, or consent of instructor.

470-3 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Laboratory. Prerequisite: 431.

475-3 Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels, and underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 415 and 431.

492-1 to 5 Special Problems in Mining Engineering. Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Prerequisite: senior standing and consent of instructor.

Molecular Science (Major [Doctoral Only])

(SEE GRADUATE CATALOG)

Mortuary Science and Funeral Service (Program, Major, Courses)

This program is the only mortuary science program offered in a public university in Illinois. The program was developed in response to a request from the Illinois Funeral Directors Association. The Association's members recognized the need for a school of higher education to educate funeral service practitioners. The program is fully accredited by the American Board of Funeral Service Education and the Illinois Department of Registration and Education.

This program also is designed to accommodate students transferring from community colleges at the end of the first year. Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Additional application information is required other than that required for admission to the University.

The program requires two academic years of study and one summer of internship in a funeral home for completion. In addition to technical courses which prepare the student for the profession, the student will take a number of courses which will lead to an understanding of the psychological, sociological, and theological implications of death.

Charge for laboratory costs will be approximately \$15.

Faculty members are licensed funeral directors and embalmers with experience in the profession. Professional courses are offered in the program's own preparation room-laboratory. Graduates of the program will have satisfied requirements for the trainee license and will be eligible to write the State and National Board

examinations and to begin serving their traineeship. Career opportunities are excellent and to date, all graduates who desired placement have been employed.

Persons active in the profession serve on the program's advisory committee.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Mortuary Science and Funeral Service

GEA 115, 106	6
GEB 202.....	3
GED 101.....	3
GED 102.....	3
GED 153.....	3
Technical Careers 120.....	3
Office Systems and Specialties 208.....	3
Mortuary Science 101, 102, 108, 225a,b, 230, 250a,b, 256, 257, 375a,b, 380	48
Elective (in Health Education).....	2
Total	74

Courses

101-3 Orientation to Funeral Service. Students will trace the history of funeral services from ancient times through practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. They will demonstrate a knowledge of funeral service organizations and will discuss topical areas of current discussion. Lecture three hours.

102-4 Restorative Art. Students will study the anatomical structure of the cranial and facial areas of the human skull. They will describe the facial proportions and markings. The student studies the methods and techniques used to restore facial features that might have been destroyed by traumatic and pathological conditions. They will demonstrate a knowledge of color and cosmetology theory. Laboratory assignments will include modeling, applying cosmetics, making hair restorations and casting facial features. Lecture three hours. Laboratory two hours.

108-3 Funeral Service Psychology. Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief, and mourning. Students will examine interpersonal and public relations as they affect the funeral service practitioner in relationship with the public served. Lecture three hours.

225-8 (4, 4) Embalming Theory and Practice. (a) The student will be introduced to techniques of embalming through a study of the body, sanitation, embalming agents, instruments, and methods of embalming. The student studies the theory, practices, and techniques of sanitation; and restoration and preservation of deceased human remains. Laboratory experience will consist of embalming deceased remains and of other related activities. Lecture three hours. Laboratory two hours. (b) The student will study the anatomy of the circulatory system, the autopsied case, the cavity embalming, the contents of the thoracic and abdominal cavities, and the treatment of "special cases" that might be encountered in the embalming process. Laboratory experience is a continuation of 225a. Lecture three hours. Laboratory two hours. Must be taken in a,b, sequence. Prerequisite: restricted to mortuary science and funeral service majors.

230-4 Mortuary Anatomy. The student will study the structure and function of the human body as a whole including: general organization, structural organization, tissues, skeletal system, nervous system, circulatory system, physiology of circulation, glands, respiratory system, digestive system, genito-urinary system, integument, and special senses. Lecture four hours.

250-8 (4, 4) Mortuary Management. (a) The student will examine the problems involved in the practice of funeral management. Included are the funeral director's responsibilities from the first call until the completion of the last service rendered the family, funeral home operation and records, ethics and professional regulations. Lecture four hours. (b) The student will trace the laws and regulations that govern the practice of funeral service, and study the Illinois License Law, Vital Statistics Act, transportation rules, and Social Security regulations. The funeral director's responsibilities and relationships to local boards of health and the State Department of Public Health are emphasized. Lecture four hours.

255-5 Embalming Chemistry. The student will study the chemistry of the body, sanitation, toxi-

ology, chemical change in deceased human remains, disinfection, and embalming fluids. Laboratory experiments will complement lecture material. Lecture four hours. Laboratory two hours.

56-4 Introductory Microbiology. The student will survey microbiology: morphology, structure, physiology, populations of microbial organisms, microbial destruction, immunology, and pathogenic agents. Lecture four hours.

57-4 Pathology. Students will be introduced to the study of the cause, course, and effects of diseases upon the human body with stress on ways in which tissue changes affect the embalming process. Lecture four hours. Prerequisite: 230 or equivalent.

75-8 (4, 4) Funeral Service Internship. (a) Students will spend one summer in a university approved funeral home learning in actual practice situations: functional organization, procedures, and policies of the establishment. They will perform duties and services as assigned by preceptor and coordinator to include surveillance of and participation in the execution of total services rendered to a family. (b) They will be given an opportunity to learn embalming techniques by active participation in the preparation room. Service reports and assignments are required to be completed by the student. Prerequisite: all other requirements of the Mortuary Science curriculum must be met including a grade point average of 2.0 in mortuary science courses. Must take a and b concurrently.

80-2 Funeral Service Seminar. Formal discussions are held to evaluate the experience and progress of the participants in the internship program. Preparations are made for the board examinations. Prerequisite: concurrent enrollment in 375. Mandatory Pass/Fail.

15-3 On Dying and Death. Students will study the processes of death, grief, and bereavement. Emphasis on the practical aspects of coping with the many problems concerning death. Not for graduate credit.

Museum Studies (Minor)

Museum studies is available as an undergraduate interdisciplinary minor. The purpose of the minor is to introduce students to various aspects of museum work, to acquaint them with the opportunities and problems faced by museums and museum personnel, and to create career opportunities for students who might seek employment in a museum. Emphasis will be placed on actual work situations in such diverse museum functions as exhibition, curation, cataloging, acquisition, and administration.

Minor

The museum studies minor consists of 18 hours, with 12 hours of required core courses and 6 hours of electives.

Core Courses: 12 hours selected from Anthropology 450a; Art 447; Geology 445; History 497 and/or 498; Political Science 446.

Electives: 6 hours selected from Anthropology 400c, 402, 404 or 460; Art 207 or 499; Political Science 441; Geology 440; History 490, 493 or 496; or courses listed above which are not used for the core.

Music (School, Major, Courses)

The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of the National Association of Schools of Music, of which this school of music is a member.

Students who wish to major in music are assumed to have acquired extensive experience in performing with school groups or as soloist, basic music reading ability, and a strong sensitivity to music and a desire to communicate it to others. Those without such a background will have to complete additional preparation, which may extend the time to graduation beyond four academic years. Music credits earned at other accredited institutions will apply toward requirements, but the transferring student remains subject to evaluation by the appropriate music faculty for proper placement in the music curriculum.

All students in the Bachelor of Music degree program must maintain satisfactory membership in one of the following ensembles: Music 011, 013, 014, 017, 020, 021, or 022 every term in residence. Students who are unable to meet the major ensemble entrance requirements for one semester will be placed on probation by the School of Music. Students who are denied entrance into a major ensemble a second time will be reviewed by the undergraduate committee for possible continued probation or suspension from all music degree programs. The choice of major ensembles must be compatible with the student's applied field. Instrumental music education students must enroll in Music 011 for a minimum of one semester. All junior and senior students with a major or minor in music must maintain satisfactory membership every session in one of the above ensembles or in Music 341 in the case of students enrolled in the piano performance or piano pedagogy specializations. Students are exempt from this requirement during the session of student teaching. Students also may elect additional large or small ensembles, not to exceed three in any one session.

Each student with a major or minor in music must designate a principal applied field and complete the credits specified within the selected specialization. Changes in the principal applied field are permissible so long as the student accumulates the required credit total and meets the required level of proficiency.

Credits in one's principal applied field are based on private lessons with a member of the faculty, weekly participation in Studio Hour and Convocations (Mondays, at 10:00 a.m.), and recorded attendance each semester at seven campus recitals or concerts, approved for the purpose by the School of Music faculty, in which the student is not a participant. Students who fail to fulfill either the Studio Hour or attendance at campus recitals or concerts requirements will receive a grade of Incomplete, which can be removed only by making up the deficiency during the ensuing semester. A student who wishes to attempt the performance specialization in applied music must have prior approval of the appropriate faculty jury, and thereafter enrolls for and receives two lessons per week for 4 credits per semester.

A student may elect private instruction in a second field or fields, but this is for one credit per semester since the studio hour and recital attendance requirements pertain only to the principal applied field.

Students not majoring or minoring in music may elect private applied music instruction if 1.) they can exhibit sufficient ability, 2.) they are participating simultaneously in one of the University performing groups and 3.) faculty loads will allow. Registration is at one credit per semester, with no studio hour or recital attendance requirement. Those wishing such instruction should arrange for an interview and audition with the appropriate instructor.

Students specializing in music education should apply for admission to the Teacher Education Program as soon as they have accumulated 30 semester hours of credit. After being admitted, they must complete a series of specific requirements in order to qualify for student teaching and for the Illinois teaching certificate. Additional information is given under Education, Professional Education Experiences, and Curriculum and Instruction in this chapter.

Upper Division Examination

All Bachelor of Music degree students must pass an upper division examination in order to be admitted to the 340 level of applied music. It is normally taken before finishing 60 hours of academic study and in the second semester of Music 240. The upper division examination for transfer students is normally taken at the end of the first semester at Southern Illinois University at Carbondale. The upper division examination consists of an applied music jury performance before the entire music faculty. Students will provide a complete repertoire list at the time of the jury.

Financial Information

Special grants and awards are available to students enrolled in the School of Music who are qualified and in need of financial assistance. Opportunities for employment in the student work program are excellent. In addition, there are scholarships (tuition awards) and loan programs available through the Office of Student Work and Financial Assistance.

Beyond the general university tuition and fees, there are not additional charges for music lessons or use of practice rooms, nor for rental of instruments used in classes or performing groups; however, students are responsible for purchase of their own textbooks, solo literature, and incidental supplies for music lessons and classes. Such costs normally range from \$20 to \$50 per semester.

Bachelor of Music Degree, College of Communications and Fine Arts

General Education Requirements.....	46
Including Music 102 and ensemble as GEC substitutes	
Requirements for Major in Music	76
Theory: Music 104a,b; 105a,b; 204; 205; 207; 321; 322.....	19
History-Literature: Music 102; 357a,b ³	8
Major performing ensembles.....	(3) ² + 3
Partial Recital: Music 398	1
Conducting: Music 316.....	1
Beginning Piano: Music 030 (or waiver by examination)	4 ³
Specialization (see below).....	40
Total	122

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, INSTRUMENTAL (STANDARD ORCHESTRAL AND BAND INSTRUMENTS, AND GUITAR)

Music 140-440, principal field, 8 semesters	28
Music 498.....	2
Music 407, 421, 461, or any of 470 series.....	6
Approved music electives	4
Total	40

MUSIC MAJOR – JAZZ PERFORMANCE SPECIALIZATION

Music 140-440, principal field, 8 semesters	28
Music 498.....	2
Music 331, 372, 430	5
Music 016.....	2
Approved music electives	3
Total	40

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, KEYBOARD (PIANO, ORGAN, AND HARPSICHORD)

Music 030 not required	
Music 140-440, principal field, 8 semesters	28
Music 498.....	2
Music 461.....	3
Music 407, 421, or any of 470 series.....	4
Music 341.....	3
Total	40

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, VOICE

Music 140-440, principal field, 8 semesters	28
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Music 498.....	2
Music 407, 421, 461, or any of 470 series.....	4
Approved foreign language, 2 semesters.....	(4) ² + 4
Music 363.....	2
Total	40

MUSIC MAJOR – PIANO PEDAGOGY SPECIALIZATION

Music 140-340 or 440, principal field, 8 semesters	20-28
Music 398-1 or 498-2	1-2
Music 461, 479, 499	10
Approved music electives	0-9
Total	40

MUSIC MAJOR – MUSIC THEORY-COMPOSITION SPECIALIZATION

Music 140-340, principal field, 6 semesters	12
Music 407, 421.....	4
Music 280.....	4
Music 380.....	4
Music 480 or 481.....	4
Music 470 series	5
Approved music electives, 300 level or above.....	7
Total	40

**Bachelor of Music Degree, College of Communications and Fine Arts or
Bachelor of Science Degree, College of Education**

MUSIC MAJOR – MUSIC EDUCATION SPECIALIZATION

<i>General Education Requirements</i>	46
Including GEB 202, GEB 114 and 301, GEC 213, and Music 102 and ensemble as GEC substitutes	
<i>Requirements for Major in Music</i>	55
Theory: Music 104a,b; 105a,b; 204, 205; 207; 321, 322.....	19
History-Literature: Music 102, 357a,b.....	(2) ² + 6
Major performing ensembles.....	(3) ² + 2
Music 140-340, principal field, 6 semesters	12
Music 398.....	1
Music 031 (or waiver by examination)	1
Music 304.....	2
Music education specialization	12
Music 030 ³	2
Music 032, 033, 034, 035	4
Music 305, 316, 318, 324	6
Or	
Music 030.....	4
Music 316, 317, 325	4
Music 306 or 032-036 series.....	2
Music 363.....	2
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
Music 304 and 306 substitute for Education 312.	
Total	126

¹In the jazz performance specialization, Music 335a and b are required as substitutes for Music 321 and 322 and one hour of ensemble.

²GEC substitutes.

³Exceptions for Music 030 and consequent credit hour adjustment in keyboard performance and instrumental music education specialization.

Bachelor of Arts Degree, College of Communications and Fine Arts

The Bachelor of Arts degree is individually tailored to meet the educational goals of each student pursuing it. Two areas of specialization are available: Liberal Arts and Music Business. Both specializations have a common core of 18-19 hours of music literature and music theory courses.

Of the 56-57 hours required to complete the Liberal Arts Specialization, the required courses are Music 357a,b, and 12-13 hours of music electives. In addition, at least one year of foreign language is required. This can be met by one of the following: (a) passing an 8-hour 100-level sequence in one language; (b) by earning 8 hours of 100-level credit in one language by proficiency examination; or (c) completing three years of one language in high school with no grade lower than C. The 34 core of elective hours necessary to complete the degree program are selected by the student with the approval of the student's faculty sponsor and the undergraduate committee. At least 40 hours toward the B.A. Liberal Arts Specialization must be at the 300-400 level. This planning should be done during the first semester of the student's admittance to the School of Music with undergraduate committee approval secured no later than the end of the second semester. Changes may be made if agreed upon by the student, the undergraduate committee and the student's faculty sponsor.

Of the 56-57 hours required to complete the Music Business Specialization, 18-19 hours are in specific music courses, 13-15 hours in music electives, and 27 hours of accounting, economics, finance and marketing courses.

Students must comply with the studio hour and recital attendance requirements listed under general requirements in music.

Bachelor of Arts Degree, College of Communications and Fine Arts

<i>General Education Requirements</i>	46
Including 102 and ensemble as GEC substitutes	
<i>Requirements for Major in Music</i>	75
Theory: Music 104a,b; 105a,b	8
Literature: Music 102	(2) ¹
Major performing ensembles	3 ¹ + (1)
Applied Music (4 semesters)	7-8
Specialization (see below)	56-57
<i>Total</i>	121

MUSIC MAJOR – LIBERAL ARTS SPECIALIZATION

Music 357a,b,	6
Approved Music Electives	12-13
Foreign Language	4 + (4) ¹
Core of Electives	34
Total	56-57

MUSIC MAJOR – MUSIC BUSINESS SPECIALIZATION

Music 030, 2 semesters	2
Music 031	1
Music 032-1, 033-1, 034-1, 035-1, 036-1	5
Music 305	2
Music 324	1
Music 374, 375	6
Music 420	1-2
Approved Music Electives	13-15
Accounting 220, 230	6

Management 304.....	3
Economics 215	(3) ²
Finance 280	3
Marketing 304, 363, 401, 438	12
Total.....	56-57

¹GEC substitute.

²GEB substitute.

Minor

The minor in music includes Music 102, 030a,b, 104a,b, 105a,b, 357a,b; two semesters of performing ensembles, two hours; and two semesters of 040 or 140, four hours for a total of 24 credits. Students must comply with the studio hour and recital requirements listed above.

Courses

011-1 to 8 (1 or 2, 1 or 2, 1 or 2) Marching Salukis. Fall semester only. Open to all students with experience in bands. Performs at all home football games, and one or two away. Counts as a "major ensemble," one of which must be taken each semester by resident music majors.

012-1 to 4 (1, 1, 1, 1) Pep Band. A select group which performs at all home basketball games. Prerequisite: audition prior to first registration.

013-1 to 16 (1 or 2 per semester) Symphonic Band. Open to all students with experience in bands. Performs standard literature. Two or three concerts per year. Counts as "major ensemble," one of which must be taken each semester by resident music majors.

014-1 to 16 (1 or 2 per semester) Concert Wind Ensemble. A select group which performs advanced contemporary literature. Three concerts and tour per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

015-1 to 16 (1 or 2 per semester) Jazz Ensemble. For students experienced with popular literature. Concerts and tours when feasible. Prerequisite: audition prior to first registration.

016-1 to 8 (1, 1, 1, 1, 1, 1, 1) Jazz Combos. A select group, performing literature scored for this instrumentation. Two or three concerts per year and tour as feasible. Prerequisite: audition prior to first registration.

017-1 to 16 (1 or 2 per semester) Symphony. Open to all experienced string, woodwind, brass, and percussion players. Plays standard and advanced orchestral literature, performs three or four concerts per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

019-1 to 4 (1, 1, 1, 1) Laboratory Orchestra. Spring semester only. Open to all experienced string, woodwind, brass, and percussion players with consent of instructor. Performs opera and orchestral-choral works.

020-1 to 8 (1, 1, 1, 1, 1, 1, 1) Choral Union. Open to qualified students who desire to perform major choral-orchestral literature. Two concerts per year. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Audition required.

021-1 to 16 (1 or 2 per semester) Chamber Choir. Open to all experienced singers. Emphasis on advanced contemporary literature. Three or four concerts per year and tours as feasible. Audition required.

022-1 to 16 (1 or 2 per semester) Concert Choir. A select group which performs advanced choral literature of all eras. Three or four concerts per year and tours as feasible. Counts as a "major ensemble," one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration, and each succeeding fall.

023-1 to 8 (1, 1, 1, 1, 1, 1, 1) Vocal Jazz Ensemble. Open to all experienced singers. Emphasis on light, popular literature. Two or three appearances per year.

030-4 (1, 1, 1, 1) Piano Class. (a) Level 1, (b) level 2, (c) level 3, (d) level 4. Designed to develop functional command of basic keyboard skills needed in the further study of music and the teaching of music. Take in sequence unless assigned advanced placement by instructor. Prerequisite: major or minor in music, elementary education, early childhood education, or consent of instructor.

031-2 (1, 1) Voice Class. (a) Level 1, (b) level 2. Designed to develop functional command of basic vocal skills needed in teaching music. Prerequisite: consent of instructor.

032-2 (1, 1) String Techniques Class. (a) Upper strings; (b) lower strings. Designed to develop essential techniques and principles which can be used in teaching young string pupils. Prerequisite: music major or minor.

033-4 (1, 1, 1, 1) Woodwind Techniques Class. Flute, clarinet, oboe, bassoon. Designed to develop essential techniques and principles which can be used in teaching young woodwind pupils. Students may begin on one instrument and shift to another at midterm, or they may continue with

the same instrument with the consent of the instructor. Prerequisite: music major or minor or consent of instructor.

34-2 (1, 1) Brass Techniques Class. Trumpet, french horn, trombone, tuba. Designed to develop essential techniques and principles which can be employed in teaching beginning brass pupils. Students may begin with one instrument and shift to another at midterm or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor.

35-1 Percussion Techniques Class. Designed to develop basic techniques and principles which can be employed in teaching young percussion pupils. Prerequisite: music major or minor.

36-2 (1, 1) Guitar Class. (a) Level 1, (b) level 2. Designed to develop basic techniques and principles which can be employed in teaching music. Prerequisite: major or minor in music, elementary education, or early childhood education, or consent of instructor.

040, 140, 240, 340, 440, 540-1, 2, or 4 Applied Music. Offered at six levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Student must attend both the weekly studio class in addition to performance classes as scheduled on Fridays at 10 a.m., and students must be concurrently enrolled in one of the performing groups. Prerequisite for 040: satisfactory completion of beginning class instruction offered in that area, or the equivalent. Prerequisite: for 140: three or more years of prior study or performing experience, or two semesters of C or better at 040 level. Prerequisite: for 240, 340: two semesters of C or better at previous level, or consent of applied jury. Prerequisite: for 440, 540: two semesters of B or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Mondays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits, taking two half-hour private lessons and the student class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter sessions, credit is reduced or lesson time is increased proportionately.

- | | | |
|--------------|----------------|----------------|
| a. Flute | i. Baritone | p. Voice |
| b. Oboe | j. Tuba | q. Piano |
| c. Clarinet | k. Percussion | r. Organ |
| d. Bassoon | l. Violin | s. Harpsichord |
| e. Saxophone | m. Viola | t. Guitar |
| f. Horn | n. Cello | u. Recorder |
| g. Trumpet | o. String bass | v. Coaching |
| h. Trombone | | |

101-3 Music Fundamentals. Rudiments of music for those with little or no musical background. One lecture and one piano laboratory session per week. Provides basic music vocabulary and keyboard competency for Curriculum and Instruction 325, 326.

102-2 Survey of Music Literature. Characteristic forms and styles. Analysis and listening. Examples from the leading composers of each era. Prerequisite: music major or minor.

104-2 (1, 1) Aural Skills. A laboratory course designed to complement 105a and b. Practice in recognition and singing of basic pitch and rhythm materials, and their realization in standard musical notation. For those planning a major or minor in music, take a and b in sequence, or, with prior consent of instructor, concurrently.

105-6 (3, 3) Basic Harmony. Study of traditional diatonic tonal materials and standard notational practice. Includes keyboard skills. For those with performing experience and planning a major or minor in music. Take a and b in sequence. Prerequisite: concurrent registration in 104 or equivalent aural skill.

107-1 Applied Harmony for Fretted Instruments. Application of basic harmonic functions to the fretted instruments including guitar. Prerequisite: concurrent enrollment in guitar (140-540t) or consent of instructor.

110-4 (2, 2) Introduction to Piano Pedagogy. Introduction to a broad range of studies that influence the development of effective piano teaching. Seminar discussions, lectures, observation of piano teaching, piano studies, readings, listening projects and written essays deal with the history of piano pedagogy and performance, studies of teaching and learning concepts of music education and educational psychology, piano literature, keyboard musicianship and practical aspects of teaching.

140-1, 2, or 4 Applied Music. (See 040.)

174-3 Commercial Music. Introductory course for students interested in the commercial aspects of the music industry. Lectures given by outstanding executives and performers in the various segments of the industry such as management, cash show, contracts, the recording of music and video, and publishing. Students go to Nashville, Tennessee, where various activities take place, including tours of recording studios, publishing houses, performance rights societies, and video and television studios. Designed to clarify the qualifications the student must have, or develop, in order to be successful in the commercial music world. Prerequisite: major in music.

204-1 Advanced Aural Skills. Continuation of 104. Designed to complement 205. Prerequisite: 104b with a grade of C or better.

205-3 Advanced Harmony. Study of chromatic tonal materials, including keyboard skills. Prerequisite: 104b and 105b with a grade of C or better, and concurrent registration in 204.

- 206-3 Music as A Creative Experience.** Students experiment with various ways of creative musical sound structures, and engage in active, critical listening, as a means to a better understanding of the nature of musical experience. Not historically oriented.
- 207-2 Contrapuntal Techniques.** Basic contrapuntal principles and skills, especially as applied to 18th and 19th century styles. Extensive writing practice, and analysis of stylistic models. Introduction to major contrapuntal forms. Prerequisite: 204 and 205 with a grade of C or better, or take 204 concurrently.
- 210-2 Analytic Techniques for the Pianist.** Studies the process by which piano teachers analyze piano music and performance. Extensive projects in piano music analysis, sightreading, interpreting and memorizing piano compositions, lecture/discussions, reading and listening assignments and observation of studio and piano class teaching provide increasing readiness for piano teaching as it relies on analytic and problem-solving techniques.
- 211-2 Piano Literature Seminar.** A survey course that acquaints students with piano music for teaching at all levels of advancement from baroque, classical, romantic and contemporary music style periods. Piano literature, sightreading, recorded music listening assignments, score study, writing assignments and lecture/performance presentations in class include studies of piano methods, piano music editions, collections and publishers highlighting the keyboard literature of sixteen major composers.
- 240-1, 2, or 4 Applied Music.** (See 040.)
- 250-3 The History and Literature of the Guitar and Related Fretted Instruments.** A survey of the history and literature of the guitar and related fretted instruments from the Renaissance to the present with emphasis on interpretation.
- 257-1 to 12 Intern-Work Experience.** Practical experience in music retailing, wholesaling, and publishing under the supervision of professional firms. Open only to candidates for the Bachelor of Music degree with emphasis in music business.
- 280-2 to 4 (2, 2) Beginning Composition.** Application of contemporary compositional techniques. Prerequisite: 105b or consent of instructor.
- 304-2 The General Music Program.** Survey of problems and methods in teaching music in the schools, with scheduled observations of school music programs in operation. Special attention given to the teaching of comprehensive musicianship through the general music program in the junior and senior high school. Also includes undergraduate history and philosophy of music education. Prerequisite: admission to the Teacher Education Program.
- 305-2 Instrumental Music in the Schools.** Administration of the school instrumental music program. Emphasis upon teaching instruments and the management and instruction of instrumental organizations.
- 306-2 Music Specialist in the Elementary Schools.** Principles and methods employed in supervising and teaching the elementary school music program. Designed for music majors and minors. Prerequisite: 304.
- 310-2 Piano Technique Seminar.** An exhaustive study of three classics on the subject of piano technique by authors Reginald Gerig, Paul Roes and Abby Whiteside. This historical perspective is practically applied in a weekly routine of technical and theoretical studies at the piano. The course provides a foundation from which to deal with all aspects of piano technique development in teaching.
- 311-2 Advanced Piano Literature Seminar.** In-depth study of an extensive catalogue of piano works for specific selection and design of a sequential curriculum of piano literature for teaching. Piano literature sightreading, recorded music listening assignments and score study culminate in a final course project that details specific piano works for teaching baroque, classical, romantic and contemporary literature to students of elementary, intermediate and advanced abilities. Prerequisite: 211.
- 316-1 Introduction to Conducting.** An introductory conducting course designed to teaching beginning rehearsal techniques. Prerequisite: music major or minor and junior standing.
- 317-2 Choral Conducting and Methods.** Score reading, baton techniques, and rehearsal techniques, organization and management problems of school choral groups. Prerequisite: music major or minor and junior standing.
- 318-2 Instrumental Conducting.** Score reading, baton techniques, and rehearsal management. Supervised application in ensemble. Prerequisite: music major or minor and junior standing.
- 321-2 Form and Analysis.** Comprehensive study of harmonic and formal structures and typical stylistic traits of 18th and 19th century music. Prerequisite: 204 and 207.
- 322-3 Principles of 20th Century Music.** Comprehensive study of harmonic techniques and other stylistic traits of major 20th century idioms. Prerequisite: 321.
- 324-1 Instrumental Arranging.** Practice in scoring of transcriptions, arrangements, and original compositions for standard instrumental groups. Prerequisite: 205.
- 325-1 Choral Arranging.** Practice in scoring arrangements and/or original compositions for choral groups. Prerequisite: 205.
- 331-1 Jazz Improvisation.** Ear training, phrasing in extemporaneous playing, use of chord symbols and chord progressions, special effects peculiar to jazz playing and styles of playing. Prerequisite: consent of instructor.

- 335-6 (3, 3) Jazz Theory.** Understanding of complex harmonies, harmonic substitution, poly-rhythm, and melodic writing. Writing in the various jazz period styles. Writing and arranging for large and small ensembles. Take in a,b sequence. Prerequisite: 207 and two semesters of 331 or consent of instructor.
- 340-1, 2 or 4 Applied Music.** (See 040.)
- 341-1 to 8 (1 or 2 per semester) Accompanying Laboratory.** Experience, under supervision, in accompanying soloists and groups. Counts as a "major ensemble" for junior and senior music majors specializing in keyboard performance and piano pedagogy only.
- 346-1 to 16 (1 or 2 per semester) Opera Workshop.** Open to all experienced singers and stage technicians. Performs one major work and two or more excerpt programs per year. Normal registration is for two credits; four credits with permission for those with major roles; eight credits for full-time summer workshop.
- 347-1 to 12 Music Theater Workshop.** For experienced singers, actors, dancers, and instrumentalists. Normally offered during summer as a full-time course, for eight credits, or one credit per show for the orchestral players. Three or four musicals are rehearsed and presented. Prerequisite: audition.
- 357-6 (3, 3) Music History.** Study of musical examples and techniques evolving from the ancient period to the present. May take a or b in either order. Prerequisite: 102 with a grade of C or better and junior standing.
- 363-2 (1, 1) Pronunciation and Diction for Singers.** (a) English and French, (b) German and Italian. Establishment of proper pronunciation as applied to vocal literature. Prerequisite: one or more semesters of private or class voice instruction.
- 364-2 The Alexander Technique of Body Control.** A controlled discipline to counteract tension habits that are harmful to correct use of the body, particularly as they relate to music, speech, dance, and theater.
- 365-1 to 64 Chamber Music.** Groups of two to sixteen performers as organized and sponsored by individual faculty members. Includes duo-piano teams, and piano in combination with other performers. Regular weekly rehearsals of appropriate music and public performance as feasible. Section (g) counts as a "major ensemble" for music majors specializing in guitar and for juniors and seniors with non-performance specializations whose principal instrument is the guitar.
- a. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Vocal.**
 - b. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-String.**
 - c. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Woodwind.**
 - d. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Brass.**
 - e. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Percussion.**
 - f. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Keyboards.**
 - g. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-Classical Guitar.**
 - h. 1 to 8 (1, 1, 1, 1, 1, 1, 1, 1) **Chamber Music-20th Century.** Instrumentalists and singers experiment with new musical techniques and styles. Small ensembles and/or one large ensemble will rehearse weekly.
- 370-2 American Folk Music.** American folk music from its foreign heritage to its current manifestations.
- 371-2 Evolution of Jazz.** Stylistic characteristics of jazz at various stages of its evolution. Societies and cultures from which it derived. Orientation is historical, sociological, and stylistic.
- 372-3 Jazz Literature.** In-depth study of the history of jazz through analysis of important stylistic characteristics and recorded improvisations. Biographical backgrounds of major composers and performers will be considered as they contribute to the evolution of musical styles.
- 373-3 Rock and Pop Music.** Study of "rock" and other popular American music. Evolution of both black and white folk music is shown. Rock is studied as the merging of aspects of these two folk mainstreams. Major figures in rock are studied. Lectures, "live" and recorded demonstrations, films, and individual projects will be used.
- 375-3 Recording Engineering.** Specializes in recording and engineering. Intended to be a general introduction to the world of multi-track recording. Seventy percent of the course involved with basic information about sound, test equipment, microphones, recorders, signal processing equipment, consoles, noise reduction devices, and the most recent developments in the perception of sound. Thirty percent consists of actual live recording sessions and mix-down sessions. Each student given hands-on experience in recording and mixing and will receive a copy of the master tape. Enrollment limited. Preference given to music majors. Prerequisite: junior music major.
- 376-3 Advanced Recording Engineering.** Continues the skills developed in 375. Student familiarized with duties of the professional engineer through practical experience.
- 380-2 to 4 (2, 2) Composition.** Original composition in a contemporary language, intermediate in scope and form. Individual instruction and weekly seminar. Prerequisite: 280 or consent of instructor.
- 398-1 to 2 (1, 1) Partial Recital.** Preparation and presentation of a partial recital in any applied field. Prerequisite: prior or concurrent registration in 340 and approval of applied jury.
- 399-5 (1, 1, 1, 1, 1) Graduate Preparatory Seminar.** (a) Music analysis, (b) Aural techniques, (c) Pre-Baroque, (d) Baroque and Classical, (e) Romantic and Modern. Designed to supply understanding and skills where deficiencies have been shown by the graduate proficiency examinations in

music. Part or all may be taken in any sequence. Prerequisite: prior assignment by graduate committee in music.

400-1 to 2 (1, 1) Performance Techniques. Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

407-2 Modal Counterpoint. Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

414-1 to 8 (1 to 2 per semester) Collegium Musicum. For experienced singers and instrumentalists. Emphasis upon practical study of historical music literature of the Medieval, Renaissance, and Baroque eras.

420-1 to 2 (1, 1) Instrument Repair. A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments.

421-2 Advanced Analysis. Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.

430-1 Jazz Arranging. Methods of scoring for popular groups. Practice in scoring arrangements and/or original compositions for jazz ensembles. Prerequisite: 335a and b or consent of instructor.

440-1, 2, or 4 Applied Music. (See Music 040.)

447-4 (2, 2) Electronic Music. (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. (b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a,b sequence. Prerequisite: 280 or consent of instructor.

453-2 to 4 (2 per semester) Advanced Topics in Choral Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. For experienced teachers and advanced students.

454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music. Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. For experienced teachers and advanced students.

456-4 (2, 2) Music for Exceptional Children. (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, autoharp, guitar, and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.

461-3 Applied Music Pedagogy. Specialized problems and techniques employed in studio teaching of any particular field of music performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.

468-2 to 4 (2, 2) Music Productions. Practicum in the techniques for staging operas and musicals.

472-2 Chamber Music Literature. A study of literature for the principal types of chamber music groups.

475-3 Baroque Music. The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: 357a with a grade of C or better, or graduate standing.

476-3 Classical Music. Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: 357b with a grade of C or better, or graduate standing.

477-3 Romantic Music. Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: 357b with a grade of C or better, or graduate standing.

479-2 to 4 (2 per topic) Solo Performance Literature. Topics presented will depend upon the needs of students and upon instructors scheduled. (a) Piano literature, including an introductory study of harpsichord music; (b) organ literature, in relation to the history of the instrument; (c) song literature; (d) guitar and lute literature; (e) solo string literature; (f) solo wind literature.

480-2 to 4 (2, 2) Advanced Composition. Original composition involving the larger media. Individual instruction. Prerequisite: two semesters of 380 with a grade of C or better and approval of composition jury.

481-1 to 4 Readings in Music Theory. Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hours' preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

482-1 to 4 Readings in Music History and Literature. Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

483-1 to 4 Readings in Music Education. Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: consent of instructor.

498-2 to 4 (2, 2) Recital. Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 Independent Study. Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of selected instructor.

Nursing (Preprofessional Program)

The School of Nursing of Southern Illinois University at Edwardsville offers a program of study leading to a Bachelor of Science degree in nursing. The program is accredited by the National League of Nursing. The curriculum is designed to prepare qualified individuals to function competently as beginning professional nurse practitioners; to participate in providing a broad scope of health care in a variety of settings; to obtain a foundation for continued growth and graduate education. Professional nursing practice is broad in scope and serves individuals in a multiplicity of settings; thus the professional nurse functions in both traditional and non-traditional situations which may require conventional or innovative patterns of practice.

The first three semesters of the program may be completed at Southern Illinois University at Carbondale. During this time, the student must successfully complete all courses prerequisite to the nursing major. The student should then transfer to Southern Illinois University at Edwardsville. Admission to the university does not guarantee acceptance into the School of Nursing. Admission criteria for the school include (1) successful completion of prerequisite courses with grades of C or above, (2) minimum overall grade point average of 2.50, and (3) completed application on file in the School of Nursing within the time deadline. Students are admitted to the School of Nursing every quarter during the academic year. Information concerning required courses is available at the Premajor Advisement Center in Woody Hall, Wing C.

Office Systems and Specialties (Program, Specialized Major, Minor, Courses)

Recent developments in office systems and related technologies have resulted in many new career opportunities for administrative personnel with enhanced general office skills or specific training in the medical, legal or court reporting fields. Both men and women have opportunities for rewarding business careers in office support positions in these areas. A major in Office Systems and Specialties leads to an Associate in Applied Science Degree and prepares a student for an exciting career by offering a combination of courses designed to improve keyboarding skills, computer literacy, English language usage, office procedures competency and document production techniques.

Each student must select one of four areas of specialization: Administrative Assistant, Legal Office Assistant, Medical Office Assistant or Court and Conference Reporting. In each of these four areas, specialized courses are required which enhance the student's office skills and introduce the student to specialized vocabulary and procedures.

A student selecting the Administrative Assistant specialization will take advanced courses in word processing concepts and applications, transcription, office management, and administrative procedures. For a student more interested in an office support position as a legal office assistant, advanced courses in applied law, legal document preparation, legal terminology, shorthand and legal office support

procedures are offered. Basic anatomy and physiology, medical terminology, medical transcription, medical administrative procedures and health insurance form preparation are some of the courses required of students in the Medical Office Assistant Specialization. Students choosing the Court and Conference Reporting Specialization follow a five-semester regime which includes legal and medical terminology, machine shorthand, two-voice and four-voice dictation and transcription, and applied law.

All students in Office Systems and Specialties are required to complete either a one-semester cooperative office internship (at least four credit hours) or a court reporting internship which involves the verification of at least forty clock-hours of actual writing time on the stenographic machine. Students in both of these learning situations are closely supervised by faculty.

A student majoring in Office Systems and Specialties may, in addition to taking regularly scheduled courses, transfer credits from an accredited post-secondary school (such as a community college); pass a proficiency examination; or receive credit for significant related office experience. Each student is assigned an adviser from the area of specialization of most interest to the student.

Students entering the court reporting specialization must be able to type thirty words per minute. In addition, good language skills are important. Court and conference reporting may be pursued within the associate degree program, or as a post-associate offering for those who have completed an associate degree in a related field at a community college or other post-secondary institution.

Many courses will require students to purchase consumable supplies for use in those courses. In addition to these materials, students enrolled in court reporting are required to supply their own shorthand machine.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Specialized Major in Office Systems and Specialties

GED 101, 102	6
College of Technical Careers 101.....	3
Office Systems and Specialties 111, 112, 113, 114, 208, 209.....	18
Specialization Requirements.....	37-46
Administrative Assistant	37-38
Legal Office Assistant	38
Medical Office Assistant	37
Court and Conference Reporting.....	46
Total.....	64-70

Administrative Assistant Specialization Requirements

GED 152 or 153.....	3
College of Technical Careers 120.....	3
Office Systems and Specialties courses	27-28
(a). Shorthand option: 107, 109, 118, 131, 132, 140, 205, 232, 233... ..	27
(b). Non-shorthand option: 107, 109, 118, 140, 205, 233, 240, 241,	
Computer Information Processing 109 and elective	
approved by adviser	28
Office Systems and Specialties 290, Cooperative Office	
Experience	4
Total.....	37-38

Legal Office Assistant Specialization Requirements

GED 152 or 153.....	3
College of Technical Careers 120.....	3
Office Systems and Specialties 131, 132, 20 credit hours chosen	

from 107, 109, 118, 182, 220, 221, 223, 233	28
Office Systems and Specialties 290, Cooperative Office Experience	4
Total	38
<i>Medical Office Assistant Specialization Requirements</i>	
GED 152 or 153.....	3
College of Technical Careers 120.....	3
Allied Health 141	4
Office Systems and Specialties 107, 109, 118, 261, 262, 263, 264 and an elective approved by adviser	23
Office Systems and Specialties 290, Cooperative Office Experience	4
Total	37
<i>Court and Conference Reporting Specialization Requirements¹</i>	
Allied Health 141	4
Office Systems and Specialties 180, 182, 186, 187, 188, 261, 281, 282, 283, 284, 385 ² , 386 ³ , 388, 389 ⁴	42
Total	46

¹Includes requirement of 60 net words per minute typing speed (OSS 113 will fulfill this requirement).
²Includes requirement of passing two five-minute dictation tests with 95% accuracy at 225 wpm using a two-voice question and answer format (OSS 385 will fulfill this requirement).
³Includes requirement of passing two five-minute jury charge/legal dictation tests with 95% accuracy at 200 wpm and two five-minute literary dictation tests with 95% accuracy at 200 wpm (OSS 386 will fulfill this requirement).
⁴Internship includes requirement of 40 hours of verified writing time on a shorthand machine (OSS 389 will fulfill this requirement).

Minor in Office Systems and Specialties (for students with a major in Spanish)

The minor in Office Systems and Specialties is intended for students with a major in Spanish who wish to train as bilingual office assistants. For those skilled in the office support areas of shorthand, keyboarding and transcription, the minor requirements are Office Systems and Specialties 107, 109, 205, 208, 232, 233, 290, College of Technical Careers 101 and six to ten credit hours of approved electives in Office Systems and Specialties courses. For those unskilled in the office support areas of shorthand, keyboarding, and transcription, the minor requirements include the courses above and Office Systems and Specialties 111, 112, 113, 114, 118, 131 and 132.

Courses

- 100-2 Typewriting.** Upon successful completion of this course, the student will demonstrate proficiency in keyboarding using correct touch-typing techniques. Students will be able to type personal and business letters, tables, outlines, reports and bibliographies. Speed and accuracy development are emphasized; audio-visual-tutorial approach to instruction is utilized. Lecture two hours and additional Learning Center hours required. Intended for non-majors.
- 107-2 Filing and Records Systems.** Upon successful completion of this course, the student will apply filing rules to alphabetic, subject, numeric, and geographic methods; determine supplies for various filing systems; demonstrate an understanding of proper filing techniques; and demonstrate an understanding of concepts related to electronic filing and micrographics and the concepts necessary for the establishment, maintenance, and revision of a filing system. Lecture two hours and additional Learning Center hours required. Enrollment restricted to OSS and VES majors or consent of department.
- 109-3 Calculating Numerical Information.** Upon successful completion of this course, the student will be able to calculate numerical information with and without the use of machines such as the electronic calculators; will have a basic understanding of calculating on the microcomputer; and will be able to perform necessary operations required to work with decimals, fractions, percentages, basic statistics, metrics, and graphic displays of numerical information as these tasks relate to routine office situations. Lecture two hours and additional Learning Center hours required.

111-3 Beginning Keyboarding. Upon successful completion of this course, the student will demonstrate correct touch-typing techniques, be able to operate machine parts correctly and make machine adjustments, determine layout and type correctly basic communications for personal and career purposes, and use correction devices and carbon copy techniques appropriately. Keyboarding speed and accuracy are emphasized; audio-visual-tutorial approach to instruction is utilized. Lecture two hours and additional Learning Center hours required.

112-3 Intermediate Keyboarding. Upon successful completion of this course, the student will be able to correctly format and type various communication documents and forms. Keyboarding speed and accuracy are emphasized; audio-visual-tutorial approach to instruction is utilized. Lecture two hours and additional Learning Center hours required. Prerequisite: 111 with a grade of C or better.

113-3 Advanced Keyboarding. Upon successful completion of this course, the student will be able to correctly format, type, and edit various advanced communication documents and forms. Keyboarding speed and accuracy are emphasized; audio-visual-tutorial approach to instruction is utilized. Lecture two hours and additional Learning Center hours required. Prerequisite: 112 or equivalent with a grade of C or better.

114-3 Office Software Applications. Upon successful completion of this course, the student will be able to identify concepts and terminology used with various office application software programs such as word processing, data bases, spreadsheets, graphics, and computer-aided transcription. The student will be able to create, format, edit, store, retrieve, and print different types of documents as well as apply advanced features of the software to expand basic documents. Lecture two hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

118-3 Introduction to Machine Transcription. Upon successful completion of this course, the student will be able to operate properly various transcribing units and to produce a variety of business communications in mailable format. The student will review language skills including grammar, punctuation, capitalization and number usage, word division, spelling, and vocabulary. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

131-4 Beginning Shorthand. Upon successful completion of this course, the student will demonstrate proficiency in Gregg shorthand theory by reading and writing outlines accurately and rapidly, by taking practice dictation on familiar and related material, and by transcribing material using letter format for mailable copy. Lecture three hours; Learning Center three hours. Prerequisites: 111 or concurrent enrollment.

132-4 Intermediate Shorthand. Upon successful completion of this course, the student will demonstrate shorthand skill by taking dictation at faster speeds and by transcribing dictated material accurately and rapidly with emphasis on mailability and office style material. Any shorthand system may be used. Lecture three hours; Learning Center three hours. Prerequisite: 131.

140-3 Word Processing Concepts. Upon successful completion of this course, the student will be able to identify the parts of a word/information processing system, types of software, hardware components, electronic methods of storage, and electronic distribution and communication devices. The student will be able to discuss current office technological trends, the creation of an effective workplace, and careers available to information processing professionals. Prerequisite: 111 or equivalent or concurrent enrollment.

180-1 Introduction to Court Reporting. Upon successful completion of this course, the student will understand the classifications of court reporters and their duties; be aware of job availability and career opportunities; understand the court reporters' code of ethics; understand the role of the reporter in the courtroom; be aware of technological innovations; and be familiar with local, state and national professional associations. Prerequisite: 111 or equivalent.

182-3 Legal Terminology and Documents. Upon successful completion of this course, the student will be able to recognize, define, spell, pronounce and use legal terminology, including Latin words and phrases. An overview of several fields of law will enable the student to understand terminology commonly associated with the law.

186-4 Basic Machine Shorthand. Upon successful completion of this course, the student will be able to utilize computer-compatible machine shorthand theory; write shorthand abbreviations, derivatives and punctuation symbols; read printed shorthand text notes and student shorthand notes; take dictation of new material for five minutes at 100 wpm; and transcribe with 95 percent accuracy or better. Lecture five hours; Learning Center five hours. Prerequisite: 111 or equivalent.

187-4 Advanced Machine Shorthand. Upon successful completion of this course, the student will be able to write computer-compatible machine shorthand arbitraries, derivatives, phrases and punctuation symbols; read student-made machine shorthand notes; take dictation of literary at 100 wpm, jury charge at 120 wpm and two-voice testimony at 120 wpm for five minutes and transcribe with 95 percent accuracy or better. Lecture five hours; Learning Center five hours. Prerequisite: 186.

188-3 Court Transcript Preparation. Upon successful completion of this course, the student will be able to prepare court transcripts using the appropriate principles of punctuation, capitalization, numbers and abbreviations. The students will also apply knowledge of transcript components and methods of transcript preparation. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent and 186.

205-2 Office Management and Supervision. Upon successful completion of this course stu-

dents will demonstrate competency in the planning, organizing, implementing, evaluating, and controlling of business office functions. Topics covered include: proper managerial skills; managerial roles; office services; physical facilities; employee training techniques; performance appraisal methods; office costs and productivity; methods for planning, scheduling, and controlling work flows; feasibility studies; and vendor relations and equipment decisions. Prerequisite: 112 or equivalent.

206-1 to 6 Career Enhancement. This course is designed as a professional development activity to enhance the skills of persons seeking to improve their overall office efficiency and work environment and also to provide additional training for those seeking to enter the field. Topics include, but are not limited to, proofreading, word usage, punctuation, grammar, shorthand, dictation/transcription, typing format, math, spelling, and vocabulary.

208-3 Applied Law for Technical Careers I. Upon successful completion of this course, the student will be familiar with fundamental legal practices and procedures. The student will be able to identify, define, and describe private and public agencies for the enforcement of legal rights, contracts, agency, and employment. Additional topics are selected to meet the needs of specific technical programs and offered in a restricted section.

209-3 Applied Law for Technical Careers II. Upon successful completion of this course, the student will be more familiar with fundamental legal practices and procedures common to the various technical specializations. The student will be able to identify, define, and describe government regulations, administrative agencies, consumer protection regulations, environmental planning, security devices and insurance, partnerships, corporations, real property and environment, personal property and bailments, and commercial paper.

220-3 Legal Document Production. Upon successful completion of this course, the student will be able to produce a variety of legal documents and papers using transcription equipment. Emphasis will be on use of modern word processing equipment and procedures. Lecture three hours and additional Learning Center required. Prerequisite: 111 or equivalent, and 118.

221-3 Legal Terminology/Dictation and Transcription. Upon successful completion of this course, the student will take dictation of legal materials at speeds of 100-120 words a minute at 95 percent accuracy, using specialized shorthand shortcuts related to the legal field. The student will transcribe from notes with emphasis on mailability and be able to handle office-style situations effectively. Lecture three hours and additional Learning Center hours required. Prerequisite: 132 or equivalent, 113 or equivalent or concurrent enrollment, and 182.

223-3 Legal Administrative Support Procedures. Upon successful completion of this course, the student will have a basic understanding of career opportunities available in the legal support field and be able to perform necessary duties required of information support personnel in a law office or other law related organization. Prerequisites: 112 or equivalent, and 221 or concurrent enrollment.

230-4 Administrative Document Production. Upon successful completion of this course, the student will produce various communications using electronic keyboards, dictation/transcription equipment, and various modern procedures with speed and accuracy. Lecture two hours and additional Learning Center hours required. Prerequisite: 114 and 118.

232-3 Administrative Shorthand. Upon successful completion of this course, the student will be able to take administrative dictation at a speed of 90-110 words a minute at 95 percent accuracy, transcribe general and specialty office communications with emphasis on mailability, and build transcription decision-making skills related to executive correspondence. Prerequisite: 112 and 132; GED 102 also recommended.

233-3 Administrative Support Procedures. Upon successful completion of this course, the student will be able to perform efficiently administrative support tasks including handling mail and telephone situations, composing communications, editing and proofreading documents, using reprographics and micrographics, arranging for travel and conferences, performing basic information processing operations and carrying out supervisory responsibilities. Emphasis will be on human relations, time management, and organization and planning of work. Prerequisite: 112 or equivalent.

240-3 Word Processing Applications. Upon successful completion of this course, the student will be able to define terms relating to the components of word/information processing systems and equipment functions. The student will input, format, edit, store, retrieve and print documents using different types of hardware and software. The student will also use transcription equipment to produce a variety of documents. Lecture three hours and additional Learning Center hours required. Prerequisite: 112, 118 and 140.

241-3 Advanced Office Software Applications. Upon successful completion of this course, the student will be able to produce a variety of documents on different types of microcomputers and information processors using advanced word/information processing functions and desktop publishing capabilities. The student will be able to create data bases, spreadsheets, and graphs and integrate the different applications in producing office documents. The student will also develop an understanding of principles, practices and technologies involved in office automation especially in regard to selection and evaluation of hardware and software. Lecture three hours and additional Learning Center hours required. Prerequisite: 114 and 240.

242-3 Office Telecommunications. Upon successful completion of this course, the student will

understand the importance of contemporary office telecommunications and why their importance is growing; review applications and basic technical detail; and be able to define necessary terms and concepts related to telecommunications and the telecommunication's environment involved in both voice and data communications. Prerequisite: 140.

243-3 Insurance Office Procedures. Upon successful completion of this course, the student will perform office duties particular to an insurance office as well as procedures used in all types of offices. Lecture three hours.

244-1 Machine Transcription (Insurance). Upon successful completion of this course, the student will be able to transcribe from a transcribing unit most types of insurance office communications at a rate of speed approaching the student's straight copy speed. Students will be required to make decisions in a variety of instances. Lecture one hour and additional Learning Center hours required.

260-3 Introduction to Text Processing. Each student will learn the basic operation and function of representative word processing machines and terminals. The lab time will be spent in the development of speed and accuracy in the typing of textual materials. Lecture two hours and additional Learning Center hours required. Prerequisite: typing skill.

261-3 Medical Terminology, Dictation, and Transcription I. Upon successful completion of this course, the student will have a basic understanding and an ability to use appropriate medical terminology, including prefixes, suffixes, and root words. The student will be able to spell and define medical terms and other special terminology in producing basic medical communications/documents. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

262-3 Medical Terminology, Dictation, and Transcription II. Upon successful completion of this course, the student will be able to utilize appropriate medical terminology, including special terms and abbreviations in the production of complex communications/documents. The student will be able to transcribe medical-related material from shorthand notes or recorded dictation with increased speed and accuracy. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

263-3 Medical Administrative Support Procedures. Upon successful completion of this course, the student will have a basic understanding of career opportunities available in the medical support field and be able to perform necessary duties required of information support personnel in a hospital, clinic, doctor's office, or other health-related organization. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

264-3 Health Insurance Processing. Upon successful completion of this course, the student will be able to prepare and to process various common health insurance forms by abstracting information from patient records. The student will have an understanding of common insurance, medical and diagnostic terminology, and coding principles relative to ICD-9-CM. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 and 261.

281-3 Legal Testimony I. Upon successful completion of this course, the student will be able to write jury charge/legal opinion and testimony materials on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 140-160 wpm and transcribe with 95 percent accuracy or better. Lecture five hours. Prerequisite: 187.

282-3 Literary/Medical. Upon successful completion of this course, the student will be able to take medical testimony and literary material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 140 wpm and transcribe with 95 percent accuracy or better. Students will know medical terminology including prefixes, suffixes, and roots of medical words commonly found in depositions and court transcripts. Lecture five hours. Prerequisite: 187.

283-3 Legal Testimony II. Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 200 wpm and transcribe with 95 percent accuracy or better. Lecture five hours. Prerequisite: 281.

284-3 Literary/Legal I. Upon completion of this course, the student will be able to write literary and legal material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 180 wpm and transcribe with 95 percent accuracy or better. Lecture five hours. Prerequisite: 281 and 282.

290-2 to 8 Cooperative Office Experience. Upon successful completion of this course, the student will be able to apply knowledge and skills learned in classroom situations to on-the-job situations in an office. Students will acquire knowledge related to securing a position, keeping a position, and advancing and growing in a career. Two hours per week are spent on related classroom instruction, and 15 or more hours per week (depending upon semester hours credit) are spent working on the job. Student must secure appropriate position which meets the cooperative education experience requirements. Prerequisite: sophomore status within Office Systems and Specialties and in good standing.

307-3 Office Records and Principles of Information Management. Upon successful completion of this course, the student will have a comprehensive understanding of the field of records and information management with emphasis on the application of scientific and systematic management techniques needed to control recorded information in an organization. The student will un-

derstand all of the elements of records management from creation through maintenance and protection to final disposition. Basic courses in management, office systems and computer software applications are recommended. Prerequisite: 107.

308-3 Office Forms Design, Analysis and Control. Upon successful completion of the course, the student will understand the concepts of form management as applied to: (1)the procedures to follow in order to implement a program within an organization; (2)analyzing and designing and/or redesigning business forms; and (3)forms construction, printing technology, paper types, forms procurement, forms specifications and inventory control. Prerequisite: 140 and 307.

309-3 Office Systems/Micrographics. Upon successful completion of this course, the student will understand the fundamental principles involved in micrographic technology including the technical aspects of the micrographic process, fundamental principles involved in systems design and development, and practical uses of micrographic systems particularly as they relate to the information management field. Prerequisite: 307. Recommended prerequisite: Computer Information Processing 109 or 229.

310-3 Office Systems and Modern Archives. Upon successful completion of this course, the student will understand the archival profession as a segment of the broader field of records/information management, its institutions and collections; the methodologies and issues in the field; and the archival field's relationship to records management under the life cycle concept of comprehensive records management. Prerequisite: 307.

313-1 to 5 Advanced Machine Shorthand. Upon completion of this course, the student should have developed a take speed of 160 words a minute with an accuracy tolerance of five percent on literary material; reviewed computer-compatible abbreviations and reporting phrases; increased transcription speed from 40 to 50 words a minute; reviewed rules of punctuation; reviewed legal and medical vocabulary; developed a technical vocabulary; and been introduced to the ethics and responsibilities of the reporting profession. Lecture three hours. Laboratory three hours. Prerequisite: 287, 288, and ability to take shorthand at 200 words per minute.

316-1 Legal Ethics. Upon completion of this course, the student should understand the canons of professional ethics as listed in *Cochran's Law Lexicon* and the NSRA's *Code of Ethics*; have observed the etiquette and duties of court reporters by attending court sessions; have taken testimony in court and transcribed that copy in proper, final form; have taken jury duty charges and legal dictation in class at speeds of 100 to 180 words a minute and transcribed that copy with a minimum of 95 percent accuracy; have taken depositions and transcribed them in state-approved form. Lecture/laboratory two hours.

385-3 Legal Testimony III. Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 225 wpm and transcribe with 95 percent accuracy or better. The student must pass two two-voice testimony takes with 95 percent accuracy or better. Lecture five hours. Prerequisite: 283.

386-3 Literary/Legal II. Upon successful completion of this course, the student will be able to write literary and legal material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 200 wpm and transcribe with 95 percent accuracy or better. The student must pass two literary takes at 180 wpm and 2 legal opinion/jury charge takes at 200 wpm with 95 percent accuracy or better. Lecture five hours. Prerequisite: 284.

388-3 Court Reporting Procedures. Upon successful completion of this course, the student will be able to report the spoken word, transcribe shorthand notes, mark exhibits, administer the oath, and understand the judicial procedures and professionalism in the field of court reporting. Prerequisite: 114 or concurrent enrollment.

389-3 Court Practicum. Upon successful completion of this course, the student will have spent a minimum of 40 hours of machine writing in an approved freelance reporting office and/or an official reporting office and produced a usable transcript of the proceedings. The student will observe courtroom and freelance procedures, will write on the shorthand machine, will receive on-the-job training under the guidance of experienced reporters, and will participate in classroom activities related to the practicum experience. Lecture two hours. Prerequisite: ability to take testimony material at 200 wpm.

Paralegal Studies for Legal Assistants (Major)

The program leads to the Bachelor of Science degree in paralegal studies for legal assistants. It prepares the graduate to function as a paraprofessional in the legal profession and as a legal assistant in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy as well as in curriculum content and format, the paralegal studies for legal assistants program is based on the proposed *Curriculum for the*

Training of Law Office Personnel as stated by the American Bar Association Special Committee on Legal Assistants. The program has two components: a core of legal specialty, administration, and communication skills courses to provide professional competency and a range of social science and humanities courses to provide the intellectual background for the student's future professional life including an understanding of law and its function in society.

Qualified students may be admitted to the Capstone program with a major in paralegal studies for legal assistants. The Capstone program is explained in Chapter 4.

Bachelor of Science Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(7) + 7
<i>Requirements for Major in Paralegal Studies for Legal Assistants</i>	55
Paralegal Courses	27
Paralegal Studies for Legal Assistants 300, 310, 320, 330, 350.....	15
Political Science 330 or Finance 270 (general law).....	3
Nine hours selected from those listed below	9
Political science 334 (criminal law)	
Political science 330 or Finance 270 if not selected for the general law requirement above (general law)	
Accounting 240 or 341 (income taxation)	
Accounting 441 (advanced taxation)	
Finance 320 (real estate)	
Finance 323 (real estate law)	
Finance 280 and 380 or approved substitute (business law)	
Paralegal Studies for Legal Assistants 340, internship. Students who take the internship will be required to work ten hours a week for one semester for each three hours of credit. A student may earn 12 hours of internship credit but not more than three will count toward the major.	
Administration Related Courses	10
Office Systems and Specialties 220.....	4
Accounting 210 or approved substitute	3
Computer Science 102, Computer Information Processing 109, Office Systems and Specialties 223 or 240	3
Liberal Arts Courses.....	18
Two upper-division courses in one social science department and one humanities department. The remaining hours may be taken in either field. General education courses numbered 300 or above may be counted.	
<i>Electives</i>	12
<i>Total</i>	120

At least fifteen hours in paralegal studies for legal assistants courses must be taken at Southern Illinois University at Carbondale.

Minor

A minor in paralegal studies for legal assistants requires 15 hours. Paralegal studies for legal assistants 300 and Political Science 330 are required. The remaining nine hours should be chosen from Paralegal studies for legal assistants 310, 320, 330, 340 or 350.

Courses

- 300-3 Introduction to Legal Analysis, Research and Writing.** After examining the litigation process and the structure of federal and state court systems, students will be introduced to case and statutory analysis. Legal research techniques and citation form will be covered in depth. Several legal writing projects will be required, some of which will involve the use of the law library. The role of paralegals and ethical constraints on the profession will be discussed throughout the course.
- 310-3 Civil Procedure.** Students will examine the lawyers' and paralegals' roles in handling civil cases, and the means by which the objectives of litigation may be achieved. Strategy and mechanics of civil procedure will be explored in depth, and students will be required to prepare a complaint, discovery requests, and initial appellate documents.
- 320-3 Estates and Trusts.** Students will study the more common forms of wills and trusts and the fundamental principles of law applicable to each; the course will analyze the administration of estates under the Illinois Probate Act.
- 330-3 Legal Forms of Business Organizations.** Includes a review of the lawyer's role in the formation of business entities, including sole proprietorship, partnerships, and corporations, with a survey of the fundamental principles of law applicable to each and the preparation of documents necessary to the organization and operation of each. The student will be prepared to draft articles of incorporation and other legal documents relevant to the role of a paralegal in a modern law office.
- 340-1 to 12 Internship in Paralegal Studies.** Supervised on-the-job training and experience in public or private offices typically employing paralegals. Student must work ten hours per week for fifteen weeks for each three hours of credit. Only three hours of internship credit applicable to major requirements. Prerequisite: formal application from student, accompanied by letter or support from supervisor, and consent of coordinator of paralegal studies program.
- 350-3 Family Law.** This course is a review of the law as it relates to the various aspects of domestic relations including marriage, divorce and separation, alimony, child custody and support, taxes, and illegitimacy and adoption.

Pharmacology (Department, Major [Graduate Only])

(SEE GRADUATE CATALOG)

Philosophy (Department, Major, Courses)

The student electing to major in philosophy should consult the department's director of undergraduate studies. Prospective students are advised to take at least one philosophy course at the 100 or 200 level.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in Philosophy</i>	28
Philosophy 304 and 305	6
At least two of the following: Philosophy 300, 306, 320, 340, 342.	6
At least two 400-level philosophy courses	6-8
Philosophy electives to complete 28 hours, 6 of which may be selected from the 100 and 200 level	8-10
<i>Minor</i>	15
<i>Electives</i>	17-23
<i>Total</i>	120

Minor

A minor in philosophy requires 15 hours, a maximum of 6 of which may be selected from philosophy courses offered at the 100 or 200 level and 6 of which must be selected from the courses listed above for the major. Philosophy 304 and 305 are recommended.

Honors

Honors in philosophy will be granted to eligible majors who maintain a 3.25 average in philosophy and a 3.00 overall average and who complete a senior honors thesis reviewed by a committee of three faculty in the department who judged it to be satisfactory.

Courses

200-3 Types of Philosophy: An Introduction. Survey of the traditional branches and problems of philosophy, such as religion, metaphysics, epistemology, ethics, political theory, aesthetics, and history.

214-3 Oriental Philosophies. Examination of world outlooks and life outlooks of major Oriental philosophic traditions: Hinduism, Buddhism, Confucianism, and Taoism.

260-3 Philosophy and Literature. An exploration of leading philosophical themes and issues in significant works of literature, the course seeks to discover in what manner the literary medium contributes uniquely to our understanding of humanity in relation to the world.

300-3 Elementary Metaphysics. Presentation of answers to the most general problems of existence. An attempt to unify all scientific approaches to reality through the laying down of common principles.

301-3 Philosophy of Religion. (Same as Religious Studies 301.) An analysis of problems in the psychology, metaphysics, and social effects of religion. Among topics discussed are the nature of mystical experience, the existence of God, and problems of suffering, prayer, and immortality.

304-3 Ancient Philosophy. Survey of western philosophy from the pre-Socratics, Plato, and Aristotle through the Middle Ages.

305-3 Modern Philosophy. A survey of western philosophy from Bacon and Descartes through Kant.

306-3 Nineteenth Century Philosophy. Survey of 19th century European philosophy. Topics to be selected from the following: Hegel's philosophy; the subsequent reactions to Hegelianism in the forms of positivism, Marxism, and existentialism; British utilitarianism and idealism; neo-Kantian philosophies; and evolutionist philosophies.

313-3 Chinese Philosophy. Historical and comparative study of Confucianism, Taoism, Mohism, Legalism, and Buddhism.

315-3 Indian Philosophy. A survey of Hinduism, Buddhism and Jainism in their historical and cultural context. Emphasis on *Upanishads*, *Bhagavad Gita* and Buddhist scriptures.

317-3 Philosophy of Buddhism. Survey of ancient and modern Buddhist thought in India, China and Japan.

320-3 Deductive Logic. Main forms of deductive inference. Emphasis on the use of the symbolism of modern logic to evaluate inferences.

340-3 Ethical Theories. Nature of ethics and morality, ethical skepticism, emotivism, ethical relativism, and representative universalistic ethics. Bentham, Mill, Aristotle, Kant, Blanshard, and Brightman.

342-3 Legal and Social Philosophy. Discussion of contemporary institutions designed to achieve socially desirable goals (e.g., guaranteeing equality of opportunity, protecting individual liberties, assuring a fair distribution of wealth, minimizing violent behavior) and the philosophical theories that serve as the foundation for the continued existence or reform or abolition of these institutions (e.g., the theories of Hobbes, Marx, Mill, and Marcuse).

344-3 The Biomedical Revolution and Ethics. Changes in biology and medicine have brought into sharp focus such problems as allocation of scarce medical resources, use of human subjects in experiments, abortion, euthanasia, genetic screening, truth-telling in medical practice, moral rights of patients and other matters. This course brings ethical principles to bear on these issues.

355-3 Philosophy of Education. (See Educational Leadership 354.)

362-3 Science and Technology in Western Societies. A study of the development and significance of science and technology in the shaping of western societies since the scientific revolution. Historical, philosophical, and sociological perspectives will be used to understand the relationships between science and technology and between these and other cultural and religious values.

371-3 Introduction to Contemporary Phenomenology. Introductory survey of individual thinkers and questions in the contemporary phenomenological tradition: Husserl, Sartre, Merleau-Ponty, Levinas, and Ricoeur.

375-3 Philosophical Foundations of Ecology. Study of the conceptual foundations of the ecological or environmental outlook, the differences that may exist between those foundations and other philosophical frameworks, and the possible changes in general patterns of thought that may result from the increasing importance and widening application of ecological sciences.

378-3 Introduction to Marxist Theory. An introduction to Marxist historical method and its effects on social theory, politics, aesthetics, literary criticism, psychology, philosophy, and economics. Classical texts from Lukacs to Althusser and examinations of critical questions in the social sciences provide the topics of the course.

389-3 Existential Philosophy. Surveys the two main sources of existentialism, the life philosophies of Kierkegaard and Nietzsche and the phenomenology of Husserl, and introduces the major philosophical themes of representative thinkers: J.P. Sartre, M. Heidegger, G. Marcel, and others.

390-3 Contemporary American Thought. Introductory survey of the main currents of contemporary philosophy in America and their relevance for legal, political, and educational developments.

397-6 (3, 3) Undergraduate Philosophy Seminar. Small group discussion of topics in philosophy.

400-3 Philosophy of Mind. An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students.

415-3 Logic of Social Sciences. (Same as Sociology 415.) Logical and epistemological examination of the social sciences as types of knowledge. Basic problems in philosophy of science with major emphasis upon social science: relationship of theory to fact, nature of induction, nature of causal law, testability, influence of value judgments, etc. Intended for students with considerable maturity in a social science or in philosophy.

420-3 Advanced Logic. Study of the main forms of sentence and predicate logic, including topics in the philosophy of logic.

425-3 Philosophy of Language. (Same as Speech Communication 465.) Introduction to basic problems in the philosophy of language, including alternative theories of meaning and reference and the relation between meaning and intention.

430-3 Epistemology. An introduction to basic problems in epistemology, including the nature, sources, and units of knowledge, the debates concerning foundationalism, correspondence versus coherence theories of truth and perception.

435-4 Philosophy of Science. Critical survey of influential description of scientific method and theory construction. Topics include the relationship between observation and theory confirmation, explanation, and prediction, theory of change and discovery, view of scientific rationality. Historical cases will serve to focus the discussions.

441-4 Philosophy of Politics. (Same as Political Science 403.) Some of the central problems of modern political life, such as sovereignty, world government, authority and consent, the relation of economic and social studies to political theory. Prerequisite: 340 or GEC 102 or consent of instructor.

443-4 Philosophy of History. Classical and contemporary reflections on the nature of history and historical knowledge as the basis for dealing with the humanities. Prerequisite: consent of instructor.

446-3 Philosophical Perspectives on Women. (Same as Women's Studies 456.) Discussion of contemporary views of women and social issues from a feminist perspective.

460-4 Philosophy of Art. The definition of art, its relation to science, culture and morals; the various types of art defined. Familiarity with at least one of the fine arts is assumed.

470-6 (3, 3) Greek Philosophy. (a) Plato; (b) Aristotle. Prerequisite: 304 or consent of instructor.

471-4 Medieval Philosophy. Prerequisite: 304 or consent of instructor.

472-4 The Rationalists. Study of one or more of the following: Descartes, Malebranche, Spinoza, Leibniz, Wolff. Prerequisite: 305 or consent of instructor.

473-6 (3, 3) The Empiricists. (a) Locke; (b) Hume. Prerequisite: 305 or consent of instructor.

474-9 (3, 3, 3) 19th Century Philosophers. (a) Kant; (b) Hegel; (c) Marx. Prerequisite: 306 or consent of instructor.

475-3 Chinese Philosophy. Confucianism, Taoism, or Buddhism. Emphasis on comparison of philosophy East and West.

482-3 Recent European Philosophy. Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture and politics.

486-3 Early American Philosophy. From the Colonial period to the Civil War.

487-3 Recent American Philosophy. Thought of realists, idealists, and pragmatists, such as Royce, Santayana, Peirce, James, Dewey, and others.

490-2 to 8 Special Problems. Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

491-1 to 3 Undergraduate Directed Readings. Supervised readings for qualified students. Open to undergraduates only. Prerequisite: consent of instructor.

Photographic Production Technology (Program, Major)

The photographic production technology program in the College of Technical Ca-

reers is a two-year program recognized by Photo Marketing Association International, Society of Photofinishing Engineers, and International Minilab Association. Through active involvement with these professional organizations, the techniques and processes included in the instructional program are current and consistent with industrial needs.

Students are involved in photographic assignments ranging from sports, studio, copy, photochemical process control, commercial print production and image reproduction techniques essential to meet the needs of the University's Photographic Services Division. During the two-year program, students will be involved with most facets of photography and photofinishing and will participate in photographic industry experiences, performing real production jobs through an on-the-job training internship at University Photographic Services. In the two two years of study, students should expect to spend approximately \$750 for materials and supplies, and each student is to provide their own fully-adjustable camera. Students receive instruction via lecture and laboratory sessions, touring industrial and commercial installations and visiting professional photography studios.

The following representatives of the profession serve on an advisory committee which keeps the program responsive to the needs of the photo industry. Current advisors are: Donald Beyer, Director, Photographic Services, AMOCO, Chicago Illinois; Tom Burrell, Owner, Burrell Photography, Chicago, Illinois; Ron Fleckal, Vice-President, H & H Color Lab, Raytown, Missouri; David Goldstein, President, D.O. Industries, East Rochester, New York; Wayne Haub, President, H & H Color Lab, Raytown, Missouri; Fred Hinegardner, President, Gallery Studio, St. Charles, Missouri; Kenneth Lassiter, Director, Photographic Trades Relations, Eastman Kodak Co., Rochester, New York; Rodger T. McManus Jr., Executive Director, International Minilab Association, Greensboro, North Carolina; Dale Plank, President, Plank Photography, St. Charles, Missouri; Tom McCarthy, President, McCarthy Photography, St. Louis, Missouri; Robin Whitburn, General Manager, Pallas Photo, Marlboro, Maine.

Students will find job opportunities throughout industry for quality technicians. Graduates are limited only by their own talent, motivation, and willingness to move to where jobs are available. Job pay is directly commensurate with the technician's resourcefulness, and drive. A bachelor's degree program through the College of Technical Careers is available for those completing the associate degree program.

A minimum of 63 credit hours is required for the major, and the program can be completed in two academic years at the University or in combination with community college or other acceptable extra-institutional experience.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Photographic Production Technology

GEA 106.....	3
GED 101, 153	6
GEB 211.....	3
Computer Information Processing 109	3
Office Systems and Specialties 100.....	2
Technical Careers 105a.....	2
Photographic Production Technology 111, 113, 115, 209, 211, 215, 221, 251a,b	43
Total	63

Courses

109-2 Illustration and Product Photography. An introductory photography course specifically designed for commercial graphics – design majors. Instruction which will emphasize product

photography will include a study of camera controls, films, and lighting techniques. Polaroid film will be the primary photographic material used in this course. Lecture one hour, lab four hours.

111-4 Photo Processing I. Introduction to photo processing via the medium of black and white photography. Students will receive extensive darkroom work, film processing chemistry, and technical photographic assignments essential to the production of quality black and white prints. Lecture two hours, lab four hours.

113-4 Photo Processing II. An introduction to sensitized materials, processing techniques and quality control procedures in common use within the photofinishing industry. Students will perform basic sensitometric and quality control procedures to a variety of black and white and color material.

115-4 Photo Equipment Operation. An introduction to the equipment and operation of commercial photofinishing labs. Students will gain experience in operation, maintenance and troubleshooting on various types of processing and printing equipment. Lecture two hours, lab four hours.

209-4 Graphics for Photography. Students will develop basic skills in print finishing, retouching and restoration for black and white and color materials. The course is designed to acquaint students with current techniques and processes used by commercial processing labs. Lecture two hours, lab four hours.

211-6 Photo Processing III. Color reversal material. An advanced course dealing with material. Students will be involved with processing and finishing techniques common to the photofinishing industry. Lecture two hours, lab six hours. Prerequisite: 113 and 115.

215-6 Photo Processing IV. Students will process and print color negatives using commercial lab techniques. Emphasis will be placed on quality control in film processing, chemical replenishing, and distribution of final product. Lecture three hours, lab six hours.

221-6 Photo Processing V. Advanced black and white photo processing. Students will refine skills necessary for quality film processing and printing requirements of both small individual photo labs and commercial labs. Emphasis will be on methods essential to meet specialized customer requirements. Lecture three hours, lab six hours. Prerequisite: 111.

251-1 to 12 (1 to 3, 2 to 9) Photo Lab Management. Students will study the personnel and financial aspects of operating a commercial photo lab. Field trips will be taken to industrial, commercial, and general photo agencies to obtain first-hand knowledge of operations. An industrial planning package is required by each student. (a) Lecture one to three hours, (b) lab two to nine hours. Prerequisite: program adviser's committee consent.

Physical Education (Department, Major, Courses)

The Department of Physical Education offers programs which qualify graduates for positions as teachers in elementary and secondary schools or for alternative careers in private, industrial, and public settings. Whatever the student's career aims may be, the programs provide a full range of intriguing and challenging professional opportunities in diversified curricula. The student can choose a discipline best suited to individual interests, talents, temperament, and future plans. While studying new concepts, the student will observe the work of outstanding teachers, athletic coaches, and clinicians. Whichever direction is selected, the student will study and practice in modern facilities, with the latest equipment and will learn the most recent techniques.

Teacher Education Specialization. The teacher education specialization consists of courses which are designed to meet the requirements of the Illinois State Department of Education and are, in most cases, transferable to meet requirements of other states. The laboratory and classroom experiences consist of basic and applied sciences, methods of teaching, and acquisition of physical skills which include a variety of team and individual sports, exercise, and dance.

Students selecting the Teacher Education Specialization may also elect additional courses to become certified by the Illinois Athletic Coaching Certification Board (IACCB) or complete a minor in either aquatics or athletic training. These additions to the preparation for teaching will enhance a graduate's employment opportunities.

Athletic Training Specialization. The athletic training specialization is designed to train students to provide exemplary first-aid care for student-athletes, and ad-

minister rehabilitation, therapeutic treatment, and preventive conditioning programs under the supervision of a physician. This program prepares graduates for careers as athletic trainers in public schools, colleges, and private and industrial settings.

Exercise Science and Physical Fitness. This program is designed for students who wish to direct physical fitness programs in private, industrial and public settings. Preparation in this program enables the graduate to assess components of adult fitness, design individual exercise programs for the development and maintenance of physical fitness, and manage a physical fitness program. Graduates will have the foundation for continued study at the graduate level.

Bachelor of Science Degree, College of Education

PHYSICAL EDUCATION MAJOR – TEACHER EDUCATION SPECIALIZATION

<i>General Education Requirements</i>	49
See Teacher Education Degree Requirements, Chapter 3.	
<i>Requirements for Major in Physical Education</i>	(2) + 39
PE 100, 113, 114, 116a,b, 117, 118a,b, 120, 121, 122, 301, 305, 314, 317, 318, 319, 321, 322, 323, 324, 345, 370, Physiology 300.	
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Electives</i>	11
Selected from departmental approved courses.	
<i>Total</i>	124

PHYSICAL EDUCATION MAJOR – ATHLETIC TRAINING SPECIALIZATION

Students majoring in physical education with a specialization in athletic training must maintain the following standards to remain in the program:

1. A minimum grade point average of 2.25 at the University.
2. A minimum grade point average of 2.5 for all required course work in the athletic training specialization;
3. Obtain a grade of *B* or better in Physical Education 225;
4. Obtain a grade of *C* or better in Physiology 301;
5. Complete 1200 hours of clinical experience;
6. Be proficient in basic skills according to class level.

The prospective student should make an early application to this program because enrollment is limited due to the size of the faculty.

<i>General Education Requirements</i>	48
GEA 101, 106, 118; GEB 202; GED 102, 153; GEE 201, 236 and two hours of one departmental physical education activity to substitute for GEE	
<i>Requirements for Major in Physical Education</i>	70
Core Requirements	(2) + 17
Physical Education 115, 303, 304, 326, 320; Physiology 209, 300	
<i>Additional Physical Education Requirements</i>	22
Physical Education 225, 226, 305, 317, 381, 382, 325, 327, 328a,b, 355d, 370	
<i>Additional Requirements</i>	31
Physical Therapist Assistant 203, 208, Allied Health Careers Specialties 105; Health Education 334, 407, 434; Psychology 302, 303, 323; Physiology 208, 301	
<i>Electives</i>	3
<i>Total</i>	121

PHYSICAL EDUCATION MAJOR – EXERCISE SCIENCE AND PHYSICAL FITNESS SPECIALIZATION	
General Education Requirements.....	46
GEA 118; GEB 202; GED 101, 107, 102	
Requirements for Major in Physical Education	65
Core Requirements	(2) + 18
Physical Education 114, 115, 303, 304, 320, 326; Physiology 209, 300	
Additional Physical Education Requirements	12
Physical Education 380, 381, 382, 408, 420	
Additional Requirements	35
Accounting 210; Management 170, 202, 301 or 304, 350 or 385; Biology 306 or 308 or 309; Chemistry 140a,b; Computer Science 202 or Computer Information Processing 229; Food and Nutrition 215, 320; Physiology 208	
Electives	9
Total	120

Students wishing to gain experience in physical education and areas related to physical education may pursue work in aquatics, coaching, and athletic training.

Minor in Physical Education

A student with a minor in physical education in secondary education must complete the following courses:

Required Activity Courses.....	10
Physical Education 113, 114, 116a,b, 117, 118a,b, 120	
10	
Required Methods Course.....	1
Physical Education 322	
1	
Required Theory Courses	17
Physical Education 301, 305, 317, 319, 321, 324, 370	
14	
Physiology 300.....	
3	
Total	28

Minor in Aquatics

A student must have advanced swimming skill, a current American Red Cross Advanced Lifesaving certificate, and a current Red Cross Water Safety Instructor certificate in order to enter the program. A student without those qualifications must complete GEE 101f and Physical Education 306 and 307 in addition to the requirements listed below.

Physical Education 208, 310, 311, 355a, 418.....	11
Eight hours selected from Physical Education 308a,b,c,d,e, or 330c	
8	
Total	19

Minor in Athletic Training

The Prospective student should make an early application for admission to this program because enrollment is limited due to the size of the faculty.

Students in physical education with a minor in athletic training must complete the following requirements for retention in the minor: (1) 2.25 SIUC grade point average; (2) 2.5 grade point average in required courses; (3) B in Physiology 300; (4) B in Physical Education 225; (5) complete 800 hours of clinical experience supervised by a certified trainer at the University; and (6) must be proficient in the basic athletic training skill according to class level.

Requirements for the minor are listed below.

General Education Requirements..... 10
GEB 202, GED 153, and GEE 201, 236
Physical Education Requirements 27
Physical Education 225, 226, 303, 304, 305, 317, 320, 325, 326, 327,
328a,b, 355d, 370
Other Requirements..... 20
Psychology 303, Health Education 334 and 434, Physical Therapist
Assistant 208, Physiology 208, 209, 300
Total 57

Minor in Coaching

The Illinois Athletic Coaching Certification Board (IACCB) recommends that the following four areas be satisfied with appropriate course work to be a certified school athletic coach:¹

- 1. Medical – Legal Aspects of Coaching;
- 2. Kinesiological – Physiological Foundations of Physical Activity and Sport;
- 3. Psycho-Social Foundations of Physical Activity and Sport;
- 4. Coaching Techniques and Principles.

Suggested courses to satisfy the above are:

- 1. Physical Education 226 and 326 or Health Education 334 and Physical Education 226;
- 2. Physiology 300 and Physical Education 303 and 304 or Physiology 209 and Physical Education 320;
- 3. Physical Education 345 or 409 or 410;
- 4. Physical Education skill course or appropriate experience, Physical Education 329 and 330 or Physical Education 355.

¹An Illinois Teacher's Certificate is required to be certified as an athletic coach.

Courses

- 100-2 Foundations of Physical Education.** An orientation to physical education including relationship of physical education to education and current trends and philosophies which underlie the practice of physical education and sport.
- 113-1 Aquatics.** This course provides the opportunity for the student to improve one's ability in basic swimming skills and strokes. It is designed to prepare the student to react in emergency situations and to know and use elementary rescue techniques. Prerequisite: GEE 101A or equivalent skill level.
- 114-2 Concepts of Physical Fitness.** A course designed to provide physical education students with the best scientific evidence to promote health related physical fitness.
- 115-3 Exercise, Conditioning, and Weight Training.** Designed to improve personal fitness, introduce students to different training programs, their benefits and means of evaluation.
- 116A-1.5 Team Sports I.** This course is designed to expose the student to the basic skills, rules and strategies in the team sports of soccer, flag football, and volleyball.
- 116B-1.5 Team Sports II.** This course is designed to expose the student to the basic skills, rules and strategies in the team sports of basketball, floor hockey, and softball.
- 117-1 Racquet Sports.** This course is designed to teach the basic skills, techniques, strategies and rules in tennis, badminton, and racquetball.
- 118A-1 Dance I.** This course is designed to introduce the student to the fundamentals of square, folk, and social dance.
- 118B-1 Dance II.** This course is designed to introduce the student to the fundamentals of rhythm and rhythmic analysis of basic dance steps, the fundamentals of modern dance, and the basics of aerobic dance.
- 120-1 Individual Sports.** This course is designed to help students develop the basic skills and knowledge in archery, bowling, and golf. A fee of \$15 or less and equipment purchase.
- 121-1 Basic Gymnastics and Combatives.** This course is designed to provide an introduction to the basic skills in stunts, tumbling, gymnastics, and combatives.

- 122-2 Track and Field.** This course is designed to provide an introduction to the basic skills and knowledge in track and field activities.
- 140-2 Beginning Modern Dance.** Emphasis placed on proper body alignment and mechanics of breathing and phrasing, vocabulary and terminology, improvisation, and creative movement. Prerequisite: GEE 103D or consent of instructor.
- 150-2 Beginning Classical Ballet.** An introduction to the traditional techniques of the classical dance as an academic craft and style that serves as a basis for logical physical training of the dancer, choreographer, and the teacher. Terminology employed to represent definite positions, steps, and movements to permit transmission of ideas in dance terms to offer the beginner an initial chart for understanding of traditional steps and complete phrases in the classical ballet idiom. Prerequisite: GEE 103F or consent of instructor.
- 160-2 to 8 (2, 2, 2, 2) Dance Concert Production Ensemble.** A select group which performs, choreographs, and produces one dance concert per semester and tours as feasible. Prerequisite: audition prior to first registration and consent of instructor each succeeding semester. Participation as an apprentice of Southern Illinois Repertory Dance Theatre for one semester.
- 170-2 to 4 (2 per part) Varsity Sports.** (a) Football. (b) Basketball. (c) Track. (d) Tennis. (e) Gymnastics. (f) Baseball. (g) Golf. (h) Swimming and diving. (i) Cross country. (k) Field Hockey. (l) Softball. (m) Volleyball. Prerequisite: participation as member of a varsity team. Mandatory Pass/Fail.
- 202-3 Physical Activities for Children and Youth.** Developing activities for motor perceptual development and skill acquisition appropriate for different age levels of children and youth. Tennis shoes required. Dress must permit ease of movement. Prerequisite: at least sophomore standing.
- 208-3 Instructor of Swimming.** Designed to prepare the student to teach beginning swimming through lifesaving to pre-school through adult groups.
- 225-2 Introduction to Athletic Training.** Designed for the non-physical education major who desires to acquire the minimum essentials for athletic training. Principle of training and conditioning, the injury conditions in various body parts, and primary treatment procedures.
- 226-1 Taping Techniques.** To familiarize the student with all aspects of taping including practice taping experience for athletic injuries.
- 257-1 to 5 Current Work Experience.** The student receives credit for current work experiences. Credit is awarded for many practical experiences and must be related to physical education and in process. Prerequisite: at least C average in physical education after 12 hours. Mandatory Pass/Fail.
- 258-1 to 5 Work Experience.** The student receives credit for p'st work experiences. Credit is awarded for many practical experiences and must be related to physical education and already completed. Prerequisite: at least C average in physical education courses after 12 hours.
- 301-2 Organization and Administration of Physical Education.** Consideration of the special problems related to the organization, administration and curriculum in physical education.
- 302-2 Kinesiology of Normal and Pathological Conditions.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical activities. Prerequisite: Physiology 300.
- 303-2 Kinesiology.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical education activities. Prerequisite: Physiology 300.
- 304-2 Mechanical Basis of Human Movement.** Applies body mechanics with application of mechanical laws and principles to performance in physical activities. Prerequisite: 303 or consent of instructor.
- 305-2 Methods of Teaching Physical Education for Special Populations.** An introductory course designed to provide the physical education generalist with the minimal competencies needed to track the mildly handicapped students in the mainstreamed or special education setting. The course will also aid the special education classroom teacher in providing appropriate physical education. Prerequisite: 317 and junior standing.
- 306-1 Advanced Swimming, Skill and Analysis.** Prerequisite: GEE 101b or equivalent.
- 307-2 Water Safety Instructor.** Methods of teaching swimming and lifesaving. American Red Cross Water Safety Instructor certificate may be earned. Bathing cap recommended. Pool suit supplied or one piece nylon tank suit required. Prerequisite: 306 and current Red Cross advanced lifesaving certification.
- 308-2 to 10 (2, 2, 2, 2, 2, 2) Instructor of Aquatics.** (a) Handicapped. (b) Skin diving. (c) Scuba diving. (d) Canoeing. (e) Swimming. Prerequisite: consent of instructor.
- 309-3 Creative Movement for Children.** Curriculum planning practicum experience in using movement as a means of self-expression for the child to enhance mental, emotional, and physical development. During the first eight weeks, students will study various aspects of dance as can be applied to creative movement for children; the second eight weeks, students will work directly with children on a weekly basis. Dance attire required. Prerequisite: two semesters of modern dance.
- 310-2 Aquatics Facilities Management.** Learning experiences designed to aid in the development of aquatic specialists who can efficiently work toward satisfactory solutions to the problems inherent in functional design, operation, and maintenance of aquatic facilities that are associated with schools, municipalities, and other organizations.
- 311-2 Lifeguarding.** The skills and techniques for preparing selected individuals related to the

aquatic lifeguarding task and training in the specifics of being a part of the aquatic lifeguarding system. Prerequisite: pass swimming test.

314-2 Methods of Teaching Elementary Physical Education. The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education programs at the elementary school level. The course will consist of lectures, class participation in demonstrations of teaching movement for children, observation of children participating in activity and also peer teaching by class members. Prerequisite: 313 and 317.

315-2 Methods of Teaching Dance. Curriculum planning for the dance student, covering analysis of dance fundamentals, identifying dance terminology, movement phrasing, accompaniment for class, and lesson planning. Focus will be on the structuring of modern dance and ballet classes at the beginning level. Dance attire required. Prerequisite: two semesters of modern technique and two semesters of ballet, both above the general education level.

316-3 Advanced Level Sports Skills: Scuba. Prerequisite: consent of instructor.

317-2 Motor Development. The purpose of this course is to provide an introduction to the normal development of motor behavior in children and adolescents, biological and environmental variables which affect motor skill acquisition; and the assessment of motor development in children and youth, with particular emphasis on the application of the knowledge to teaching and learning situations.

318-2 Motor Learning. Study of theory and research emphasizing the psychological and neural basis of underlying the learning of motor skills; application to physical education teaching and athletic coaching environments. Prerequisite: GEB 202.

319-2 Physiological Foundation of Exercise and Sport. This course is designed to provide basic physiologic information regarding exercise and sport performance. This course is open to Teacher Education majors only.

320-3 Physiological Basis of Human Movement. Immediate and long range effects of muscular activity on the systems. Integrative nature of body functions and environmental influences on human performance efficiency. Laboratory to be arranged. Prerequisite: Physiology 209 or equivalent.

321-2 Biomechanical Analysis of Sport. The science of human motion; study of anatomical and mechanical principles as they relate to an understanding of skillful and efficient motion. This course is open only to undergraduate Teacher Education students. Prerequisite: Physiology 300.

322-1 Teaching Practicum. Laboratory experience assisting with a GEE course, or in a school setting. Mandatory Pass/Fail.

323-2 Methods of Teaching Secondary Physical Education. The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education programs at the secondary school level. The course will focus on knowledge and skills related to effective instructional strategies, efficient management and organizational principles, and effective class control and motivational techniques specific to teaching physical education for secondary school students. Prerequisite: 317, 318.

324-2 Essentials of Athletic Training. This course provides basic information regarding prevention, recognition, first aid, taping and wrapping of athletic injuries. The student will be required to successfully demonstrate basic strapping techniques, bandaging, splinting and CPR. The course leads to certification in first aid and CPR. Certification fees payable to the local organization will be collected in class.

325-2 Training Room Techniques. Intended for the student who wishes to complete a specialty as athletic trainer. Provides knowledge concerning the organization and administration of a training room, the installation and use of its modalities, and general procedures of training room operational functions. Prerequisite: Physiology 300 or 301.

326-3 Emergency Care and Prevention of Athletic Injuries. The theoretical and practical methods of preventing and treating athletic injuries; techniques of taping and bandaging; emergency first aid; massage; use of physical therapy modalities. Lecture and laboratory sessions. Prerequisite: Physiology 300 or 301.

327-2 Medical Aspects of Athletic Injury. The student will acquire an advanced understanding of the proper prevention and rehabilitation of athletic injuries. The student will also understand medical and surgical procedures and their consequent factors to be considered in treatment programs. Prerequisite: 326.

328-2 (1, 1) Field Experience in Athletic Training. The student will be responsible for prevention of injuries, taping, rehabilitation, evaluation, and coverage of practices and games for an intercollegiate athletic sport. Prerequisite: 327 and permission by athletic training program coordinator.

329-3 Principles and Procedures for the Conduct of Interscholastic Athletics. An examination of the history, values, and trends in extracurricular sports programs. A review of regulations and standards as determined by the governing bodies for men's and women's sports and an in-depth study of coaching and administrative procedures. Prerequisite: competitive experience recommended and consent of instructor.

330-2-26 (2 per part) Techniques and Theory of Coaching. (a) Basketball. (b) Football. (c)

Swimming. (d) Baseball. (e) Track and field. (f) Wrestling. (g) Tennis. (h) Gymnastics. (i) Golf. (j) Badminton. (k) Field hockey. (l) Softball. (m) Volleyball. Prerequisite: consent of instructor.

341-2 Assessment of Musculoskeletal Injuries. The student will be introduced to the techniques in evaluating injuries to muscles and joints. Prerequisite: basic altheletic training course and consent of instructor.

345-2 Psycho-Social Aspects of Sport and Physical Activity. This course introduces the student to basic theoretical and practical concepts of sport psychology and sport sociology. The course looks at the individual within play, game and sport environments, as well as the play, game and sport setting within the larger social structure. An emphasis will be placed on how the structure of society influences play, games, and sport, and what the effects of play, games, and sport are on the individual.

355-2 to 14 (2, 2, 2, 2, 2, 2, 2) Practicum. (a) Aquatics. (b) Special Populations. (c) Coaching. Mandatory Pass/Fail. (d) Athletic Training. (e) Dance. (f) Exercise Science. (g) Teaching of Sport. Prerequisite: restricted to written consent of instructor.

360-1 to 2 Theory of Officiating. This course provides information on officiating sports. The course will cover the basic theory of officiating and provide the student with the opportunity to gain practical experience from the officials perspective in selected sport activities. Prerequisite: consent of instructor.

370-2 Measurement and Evaluation in Physical Education. The theory of measurement in physical education, the selection and administration of appropriate tests of motor skills and the interpretation of results. Prerequisite: Education 317 or concurrent enrollment.

375-2 Introduction to Professional Literature in Physical Education. An introduction to the professional literature in physical education with emphasis on the reading of research-oriented journals. Prerequisite: senior standing and grade point average of 3.25.

380-2 Aerobics. A study of theoretical and practical framework within which the concepts of aerobic fitness exist. Both an evaluation and a hands-on experience with the direct and indirect procedures commonly used to determine oxygen uptake capacity and aerobic power. A thorough discussion of the meaning of aerobic fitness as it applies to general fitness of the adult and aging person. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

381-2 Exercise and Weight Control. A theory practicum course dealing with the interrelationships of exercise and diet as factors influencing weight control. Emphasis on the practical delivery of programs of weight control in the context of adult programs of physical fitness. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

382-3 Graded Cardiovascular Testing and Exercise Prescription. A study of the controlled use of exercise to evaluate the cardiovascular function of an adult population and in specific persons of middle and older aged groups. The scientific basis of recommending exercise programs as a preventive rather than a treatment of heart disease will be stressed. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

400-3 Evaluation in Physical Education. Historical background of measurement in physical education; selection and evaluation of contemporary testing devices (predominantly tests of motor skill); structure and use of tests; administering the testing program; and statistical manipulation and interpretation and application of results.

403-3 Individualizing Physical Education Instruction for Students with Special Needs. Designed as an introductory survey of handicapping conditions found most often in the regular class setting with implications for physical education instruction. Emphasis is placed on a diagnostic-prescriptive teaching model. Students will learn to plan, implement, and evaluate quality physical education services to handicapped students. Prerequisite: graduate standing or consent of instructor.

407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries. The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries.

408-2 Physical Fitness: Its Role and Application in Education. An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

409-3 Social Aspects of Sport and Physical Activity. This course presents an analysis of the social implications of sport on society and includes consideration of sports in relation to sexual identifications, women, minority groups, politics, political activism, social deviance, and other related areas.

410-3 Behavioral Analysis of Sport. Application of sport psychology principles and theories to athletic situations in order to better understand sport related behavior. Behavioral problems related to sport are discussed, with a goal of enhancing athletic performance through the creation of a positive sport environment.

415-1 to 6 (1 per topic) Workshop in Sports. A concentrated experience in the latest theories and techniques of selected sports activities. Emphasis is placed on individual and team drills, instructional materials and improved teaching methods. One semester hour for each workshop. A

total of four hours only of such workshop experience may be credited toward the master's degree. Workshop titles are: (a) Baseball. (b) Basketball. (c) Field hockey. (d) Football. (e) Gymnastics. (f) Soccer. (g) Softball. (h) Swimming. (i) Track and field. (j) Volleyball. (k) Tennis. (l) Athletic training.

418-2 Administration of Aquatics. The study of comprehensive aquatic programs, their implementation and coordination.

420-3 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Requires purchase of laboratory manual. Prerequisite: Physiology 209 or equivalent.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) Dance. (b) Kinesiology. (c) Measurement. (d) Motor development. (e) Physiology of exercise. (f) History and philosophy. (g) Motor learning. (h) Psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chairperson.

494-2 (1, 1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

Physical Therapist Assistant (Program, Major, Courses)

The physical therapist assistant program, which has been accredited by the Commission on Accreditation in Physical Therapy Education/APTA, is designed to prepare the student to work under the direction of a licensed physical therapist to treat disabilities resulting from birth defects, disease, or injury. Following the referral of a physician, the therapist helps the patient to develop strength, mobility, and coordination, and provides relief from pain.

Students will learn massage, exercise, physical agents, and other therapeutic techniques in actual practice in the University's Clinical Center. They will work with professional therapists in learning such complex procedures as administering manual muscle tests, electrical muscle and nerve tests, and other evaluative measures.

Before graduation the student will serve a twelve-week internship in two separate hospitals away from the University campus.

The program is served by an advisory committee made up of practicing physical therapists, physical therapist assistants, students, and educators who provide expertise to assure a curriculum which will prepare students to meet the physical therapy needs of the public.

The student should expect to spend approximately \$100 for uniforms and insurance.

Increasing numbers of elderly and chronically ill persons and the rapid expansion of health care programs in both urban and rural areas have created an urgent demand for trained physical therapists. Employment opportunities are available in hospitals, rehabilitation centers, extended care facilities, out patient clinics and schools.

Physical therapy provides a unique service and requires a close interpersonal relationship with the patient. The candidate must possess the following qualities to work with people: 1) good mental and physical health, 2) stamina, 3) good coordination and manual dexterity, and 4) spirit of cooperation.

The prospective student should plan to make early application for admission to this program because enrollment is limited by size of faculty and physical facilities.

This associate degree program can be completed in two academic years, plus one summer session, at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience. This program can also be completed in one calendar year if the applicant has successfully completed the appropriate college level courses.

The technical course credits will not necessarily transfer to a professional program.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Physical Therapist Assistant

GEA 101, 118 and a physiology course approved by the coordinator	11
GEB 202.....	3
GED 101, 152	6
Allied Health Careers Specialties 105	2
Health Education 334.....	3
Physiology 300	3
Physical Education 302, 320, and 325 or 326.....	7-8
Psychology 301, or 303, or 304, or 305.....	3
Physical Therapist Assistant 100, 113, 202, 203, 204, 205, 207, 208, 209, 213, 214, 321, 322	36
Total.....	74-75

Courses

- 100-2 Physical Therapy Orientation.** Students will be able to describe the historical background, professional ethics, and legal aspects of physical therapy practice. They will be able to understand and utilize specialized medical terminology. They will be able to prepare treatment areas and patients for treatment. They will be able to understand quality assurance. They will be able to understand the relationship of physical therapy to total health care. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor. Mandatory Pass/Fail.
- 113-2 Physical Agents I.** The student will be able to demonstrate procedures used in the safe application of local heat and cold such as hot and cold packs, infra-red, ultraviolet and paraffin bath, and will also be able to demonstrate safe hydrotherapy procedures such as whirlpool and contrast baths. Lecture one hour. Laboratory two hours. Ten weeks. Prerequisite: program major or consent of instructor.
- 202-2 Physical Rehabilitative Techniques.** The student will be able to demonstrate rehabilitative procedures such as bed positioning, range of motion exercises, transfer activities, gait training, chest physical therapy, goniometry, and will understand the concepts of total rehabilitation. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor.
- 203-2 Pathology.** The student will be able to understand the fundamental basis of disease. Emphasis will be placed on those conditions treated through physical therapy procedures. The student will be able to describe the process of inflammation and repair bone and soft tissue injuries. Lecture two hours. Prerequisite: Physiology 209.
- 204-2 Physical Therapist Assistant, Practicum I.** Students will be able to carry out routine physical therapy assisting procedures with selected patients. They will be able to demonstrate previously learned skills in massage, hydrotherapy, range of motion exercises, activities of daily living, and the safe application of heat and cold. They will also be able to assist in maintaining records and equipment. Lecture one hour. Laboratory three hours. Prerequisite: 113, 202, 207.
- 205-2 Physical Therapy Science.** The student will be able to describe selected medical and surgical conditions from the standpoint of etiology, clinical signs and symptoms, and physical therapy treatment. Lecture two hours. Prerequisite: 100, Physiology 209, 300.
- 207-1 Massage.** The student will be able to demonstrate massage techniques for specific conditions through role playing and supervised application of massage to selected patients, and will understand the scientific principles of massage and be aware of indications and contraindications for massage. Lecture one hour. Laboratory three hours. Six weeks. Prerequisite: concurrent enrollment in 100 and consent of instructor.
- 208-3 Therapeutic Exercise I.** Designed to teach basic exercises for individual groups, including breathing, postural exercises, manual muscle testing, and gait analysis. Successful students will learn to select exercises for specific results; ie., increasing strength, coordination, endurance, and range of motion. Lecture two hours. Laboratory three hours. Prerequisite: Physiology 300 with a grade of C or better, program major or consent of instructor.
- 209-4 (2, 2) Therapeutic Exercise II.** Successful students will be able to understand the scientific principles of therapeutic exercise and acquire skills to effectively and safely utilize exercise equipment. (a) The student will be able to administer orthopedic therapeutic exercise techniques, including PNF and manual therapy as well as apply specific treatment protocols for specified orthopedic clinical conditions. (b) The student will be able to administer neurological therapeutic exercise techniques, including use of motor reflexes, sensory facilitation and synergies as well as apply specific treatment protocols for specified neurological clinical conditions. Prerequisite: 208 and Physiology 300, program major and consent of instructor.
- 213-3 Physical Agents II.** The student will be able to demonstrate procedures used in the safe application of deep heat, such as shortwave diathermy and ultrasound, and other modalities in-

cluding pelvic and cervical traction and electrical muscle stimulation, and understand their physiological effects. The student will be able to describe the indications and contra-indications for each physical agent covered. Lecture two hours. Laboratory three hours. Prerequisite: 113 and GEA 101, program major or consent of instructor.

214-3 Physical Therapist Assistant, Practicum II. Successful students will be able to carry out more complex physical therapy assisting procedures with selected patients. They will be able to demonstrate previously learned skills in therapeutic exercise, electrical muscle stimulation, and the safe application of such modalities as ultra sound, diathermy, and ultra violet. They will be able to assist in maintaining records and develop cooperative spirit with other members of the department. Lecture one hour. Laboratory five hours. Prerequisite: C average in 113, 202, 203, 204, 208, 213.

321-8 (4, 4) Clinical Internship. The successful student will be able to apply previously learned theories and techniques of patient care through closely supervised practicum experience in two separate physical therapy facilities. (a) First six week internship. (b) Second six week internship. Must be taken in a,b sequence. Prerequisite: completion of all other requirements with a minimum grade average of 2.0.

322-2 Clinical Seminar. Students will be able to discuss with the coordinator of the program patient care and problems encountered during internship. They will have the opportunity to evaluate their educational experience at Southern Illinois University at Carbondale and their clinical internship experience. Prerequisite: concurrent enrollment in 321. Mandatory Pass/Fail.

Physics (Department, Major, Courses)

The undergraduate major in physics leading to the Bachelor of Science degree provides for a mastery of basic principles and methods of classical and modern physics and prepares the student for a wide variety of career opportunities. A degree in physics can lead to a challenging and interesting career. Physics as a profession has always been at the center of exciting discoveries, and much of modern science is originally based on the research done by physicists. The outlook for the future appears even more challenging.

The Physics Department at SIUC offers a first-rate undergraduate program in physics. Individual attention is provided to physics majors. We offer advanced laboratory courses in modern physics, digital and analog electronics, acoustics, and lasers and modern optics. Most importantly, the Department of Physics is research-oriented with all of its faculty active in research. Participation by advanced undergraduates in the research program of a faculty member is encouraged and can be very useful to students, providing them with technical skills not available through formal coursework and giving them a taste of *real* physics. The physics faculty at Southern Illinois University at Carbondale is engaged in a wide range of research activities in both experimental and theoretical physics. Our undergraduates can participate in experimental projects in such areas as nuclear magnetic resonance, low-temperature physics, laser-induced reactions, photo-acoustic microscopy, infrared spectroscopy and electron paramagnetic resonance. For those students who have an interest in theoretical physics, research projects are available in high-interest areas such as quantum physics, solid state physics, atomic and molecular physics, statistical mechanics and nuclear physics.

Employment opportunities in physics are varied and abundant, from industrial research and development to teaching. Physicists are employed in all sectors of society, including corporations, government research agencies and universities. Physicists are presently enjoying unusual opportunities in the development of new concepts that are expected to have far-reaching consequences in the high technology of the future. Totally new applications are arising from understanding basic physics principles. Some of these emerging concepts include laser communications, holography, synchrotron radiation light sources, opto-electronics, high-temperature superconductors and physics applications in medicine. At a time when technological developments and discoveries are creating a heavy demand for physicists, projections indicate the possibility of a critical shortage of trained physicists.

In summary, physics is an exciting field, its graduates are in demand and enjoy high salaries. At SIUC, you have the opportunity to achieve a well-rounded education in becoming a physicist. Students considering a major in physics are urged to consult with the undergraduate adviser of the physics department. An applied physics/experimental physics optional curriculum is provided by selecting from the courses marked with an asterisk in the list of courses required for a major in physics.

Bachelor of Science Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	12
Foreign Languages (French, German, or Russian recommended)	(4) + 4
Biological Science (Not General Education)	6 ³
Mathematics 111	(3) + 2
<i>Requirements for Major in Physics</i>	72-73
Chemistry 115 ² and 222a or 222a,b	7-8
Mathematics 150, 250, 251, 305, and 306 or 406 or 407	17
Physics	48
Physics 205a,b,c and 255a,b,c	12
Physics 301, 310, 320, 345, 410, 420, 430	20
16 hours from 324*, 328*, 351*, 424*, 425, 428*, 431, 432, 445, 450*, 460a*, 460b*, 470*	
*Applied/experimental option, concentrating on laboratory courses	16
<i>Total</i>	130-131

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.
²For students who do not pass a proficiency examination in chemistry.
³If courses are selected which are approved General Education substitutes the hours earned will reduce the 46 hour requirement in General Education.

Bachelor of Science Degree, College of Education

<i>General Education Requirements</i>	48 ¹
Must include GEB 114, 202 and 301; GED 101 and 102 and 152 or 153; GEE 201 and two hours of physical education activity; Mathematics 111 as a substitute for GED 107	
<i>Requirements for Major in Physics</i>	58-59
Chemistry 115 ² and 222a or 222a,b	7-8
Mathematics 150; 250; 251; 305; and 306 or 406 or 407	17 ³
Physics 205a,b,c and 255a,b,c	12
22 hours of physics courses numbered 300 or above including 310, 320, 324, 430, and either 425 or 431 and any three of the following courses: 328 and 351, 345, 424, 432, 450, and 460a	22
<i>Professional Education Requirements</i>	28
See Teacher Education Program, Chapter 3. Curriculum and Instruction 468 is required.	
<i>Total</i>	134-135

¹The General Education requirement may be reduced by taking major requirements which are approved substitutes for General Education courses.
²For students who do not pass a proficiency examination in chemistry.
³Students wishing to qualify to teach mathematics in the secondary schools should take, in addition, Mathematics 311 or 319 and 319e or 352 and 352e.

Minor

A minor in physics requires 17 hours and must include Physics 203a,b and

253a,b, or 205a,b and 255a,b and either 205c and 255c or 302 and 255c; 324 or 328 and 351 (no calculus prerequisite). Students having completed calculus (through Mathematics 251) may select 345 and those taking differential equations may select from 310, 410, and 320, 420, to meet requirements.

Recommended electives:

Chemistry: 226, 380, and 460 or 462

Engineering: 222, 313, 361

Electrical Engineering: 421, 426

GEB: 211

Geology: 416, 435, 436

Mathematics: 221, 306, 406, 407, 421, 452, 455, 475, 480, 481, 483

Courses

102-1 Everybody's Einstein. A non-mathematical presentation of Einstein's relativity theories on a popular level. No prerequisite.

203-6 (3, 3) College Physics. Designed to meet preprofessional requirements and the needs of all students in the sciences, except physics and engineering. (a) Mechanics, heat, and sound. Prerequisite: Mathematics 108 and 109 or 111. (b) Electricity, magnetism, light, and some aspects of modern physics. Prerequisite: 203a.

205-9 (3, 3, 3) University Physics. Designed to meet requirements of physics, engineering, and chemistry majors. (a) Mechanics, heat, and thermodynamics. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Electricity, magnetism, and optics. Prerequisite: 205a. (c) Concepts in modern atomic, molecular, nuclear physics, quantum physics, and relativity. Prerequisite: 205a,b or consent of instructor.

253-2 (1, 1) College Physics Laboratory. One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 203a,b respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

255-3 (1, 1, 1) University Physics Laboratory. One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 205a,b,c respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

301-2 Theoretical Methods in Physics. Introduction to theoretical methods of general usefulness in intermediate and advanced undergraduate physics, with particular emphasis on applications to selected topics. Required of all physics majors prior to or concurrently taking 310 or 320. Prerequisite: 203a or 205a, Mathematics 250 or consent of instructor.

302-3 Astronomy – Honors. Current knowledge of the universe and the gathering of that knowledge. Includes properties of the solar system and theories of its origin, the structure and evolution of stars. Supplemented by occasional hours of evening observation. Prerequisite: one of 203a, 204a, 205a, plus Mathematics 111, or consent of instructor.

310-3 Mechanics I. Motions of systems of particles and rigid bodies. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

320-3 Electricity and Magnetism I. The theory of electric and magnetic fields; electrostatic fields in vacuum and in material media, special methods for the solution of electrostatics problems, energy, and force relations in electrostatic fields; stationary electric fields in conducting media, electric currents, magnetic fields, magnetic properties of matter. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

324-3 Analog Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study in analog electronics. Emphasis is on overall modern electronics and its applications in the experimental research laboratory setting. Topics include DC and AC circuit theory, transducers and measurement techniques, semiconductor active devices, operational amplifiers and feedback, signal recovery and processing techniques, and noise reduction. Prerequisite: 203b or 205b and Mathematics 111.

328-2 Light. Light propagation, reflection, refraction, interference, diffraction, polarization, and optical instruments. Prerequisite: 203 or 205.

345-3 Thermodynamics and Statistical Physics. Thermal behavior of macroscopic matter, the laws of thermodynamics; basis for thermodynamics in statistical mechanics; basic methods and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 301, Mathematics 251.

351-1 Optics Laboratory. Advanced experiments in geometrical and physical optics. One three-hour laboratory per week. Prerequisite: 328 or concurrent enrollment.

410-3 Mechanics II. Gravitation, continuous media, transformation properties, Lagrangian and Hamiltonian formalisms. Prerequisite: 310 or consent of instructor.

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor.

- 424-3 Digital Electronics for the Scientist.** Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers, and data acquisition. Prerequisite: 324 or consent of instructor.
- 425-3 Solid State Physics I.** Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; opto-electronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor.
- 428-3 Modern Optics and Lasers.** Properties of electromagnetic waves in space and media, polarization and interference phenomena and devices, electro- and magneto-optic effects, optical gain, and lasers. Prerequisite: 420 or consent of instructor.
- 430-3 Quantum Mechanics I.** An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 205c, 310 and 320. Prior or concurrent enrollment in 410 and 420 is desirable.
- 431-3 Atomic and Molecular Physics I.** Atomic spectra and structure; molecular spectra and structure. Prerequisite: 430 or consent of instructor.
- 432-3 Nuclear Physics I.** Basic nuclear properties and structure; radioactivity, nuclear excitation, and reactions, nuclear forces; fission and fusion. Prerequisite: 430 or consent of instructor.
- 445-3 Statistical Mechanics I.** An introductory course in the principles and applications of classical and quantum statistical mechanics, and the elementary kinetic theory of matter. Prerequisite: 345 and 430 or concurrent enrollment.
- 450-1 Modern Physics Laboratory.** Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c or consent of instructor.
- 458-2 Laser and Optical Physics Laboratory.** Properties of laser beams and resonators, fluorescence and two photon spectroscopy, diffraction, Fourier transformation and frequency filtering, electro- and magneto-optic modulation, fiber propagation and related experiments. Prerequisite: 428 or consent of instructor.
- 460-8 (4, 4) Physical and Applied Acoustics.** Coordinated lecture and laboratory study in acoustical phenomena. Topics include vibration analysis, wave mechanics, two and three dimensional propagation and applications in physics, materials science, engineering, architecture, music, and environmental science. Emphasis on laboratory and field techniques with modern computer analysis. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.
- 470-1 to 3 Special Projects.** Each student chooses or is assigned a definite investigative project or topic. Prerequisite: 310, 320 or consent of instructor.

Physiology (Department, Major, Courses)

The Department of Physiology offers training in mammalian physiology, cellular and comparative physiology, pharmacology, biophysics, and human anatomy. The undergraduate major in physiology provides general rather than specialized training in physiology. To become a professional physiologist usually requires the completion of an advanced degree in the field. An undergraduate major in physiology would provide an excellent foundation for those planning a career in teaching or research as well as for those planning a career in a medical field such as medicine, dentistry, veterinary science, nursing, or medical technology. Students considering a major in physiology are urged to consult with the undergraduate adviser of the Department of Physiology.

Bachelor of Arts Degree, College of Science

General Education Requirements.....	46
College of Science Requirements	4
Foreign Languages	(4) + 4
Requirements for Major in Physiology	58
Physiology Courses.....	24
Physiology 410a,b.....	10
Physiology electives	14
To be chosen from 300 or 400-level courses offered in the Department of Physiology	
Physical Sciences	24

Chemistry 222a,b; 380a,b ¹	16
Physics 203a,b; 253a,b	8
Biological Sciences	6
Two from Biology 305, 307, 308, 309	
Mathematics 150 and 250 ²	8
<i>Electives</i>	8
<i>Total</i>	120

¹Chemistry 344, 345, 346, 347 and 450 can be substituted for 380a,b. The additional credit hours accumulated can then count toward Electives.

²Mathematics 150 and 250 will fulfill the College of Science mathematics requirement.

Minor

A minor in physiology requires a minimum of 16 hours of course work, 10 hours of which must be selected from 300 or 400-level courses offered in the Department of Physiology. The remaining course work may be derived from closely related areas with prior approval of the department.

Junior-Senior Honors Program

Juniors who have shown outstanding ability in biology courses and related subjects in their freshman and sophomore years may apply for acceptance into the honors program. Honors students do independent study in the physiological sciences (Physiology 491) during their junior and senior years.

Courses

208-1 Laboratory Experiences in Physiology. Laboratory course to be taken concurrently with 209. Provides experiences with small animal experimentation and measurements made on the human subject. One two-hour laboratory per week. Prerequisite: concurrent enrollment in 209.

209-3 Principles of Physiology. A comprehensive introductory analysis of the functional machinery of the living body, with emphasis on human physiology. Three lecture hours per week. Not open to students who have taken 310. Prerequisite: a background in biological science recommended.

258-2 to 8 Work Experience Credit. Under special circumstances, practical experience in laboratories or other work directly related to physiology can be used as a basis for granting credit in physiology. Credit for past work experience is sought by petition to the chairperson of the department and requires approval of the dean of the College of Science. Credit for on-going work experiences requires approval by the chairperson of the department prior to enrollment.

259-2 to 8 Occupational Education Credit. Under special circumstances, advanced training in a paramedical or other field directly related to physiology can be used as a basis for granting credit in physiology. Such credit is sought by petition to the chairperson of the department and requires approval of the dean of the College of Science.

300-3 Human Musculoskeletal Anatomy. Lectures, demonstrations, and observations of the prosected body. Course primarily for students of physical education, with emphasis on musculoskeletal and nervous systems. Three lecture hours per week. Not open to students who have taken 301.

301-4 Survey of Human Anatomy. Lectures, demonstrations, and observations of the prosected body, plus experiences in the anatomy laboratory. Course is designed for students in nursing; mortuary science, biological science, and related disciplines. Three lecture hours and one two-hour laboratory per week. Not open to students who have taken 300.

310-5 Introductory Human Physiology. Beginning course in human physiology designed for majors in physiology and other biological sciences, and recommended to premedical and other students considering biological sciences and health professions. Three lectures per week, one hour discussion and one two-hour laboratory. Prerequisite: one year of biological science and a reasonable knowledge of chemistry.

400-6 (3, 3) Concepts in Anatomy. A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines, including radiographic, cross-sectional, and developmental anatomy. Three lectures per week. Should be taken in a,b sequence. Prerequisite: 301 and senior standing or consent of instructor.

401-6 (3, 3) Advanced Human Anatomy Laboratory. Laboratory dissection of the human body (six hours per week). Primarily for students majoring in physiology or other biological sciences, anthropology, etc. Prerequisite: 400 taken concurrently or prior enrollment in 401.

410-10 (5, 5) Mammalian Physiology. Physical and chemical organization and function in mam-

mals, with emphasis on the human. Physiology blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle. Primary course for all students majoring in physiology or related sciences. Four lectures and one three-hour laboratory session per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

411-4 (2, 2) Experimental Animal Surgery. (a) Covers animal care and preparation, anesthesia, etc.; one lecture and one two-hour laboratory per week. (b) Provides training and practice in surgical procedures. Two two-hour laboratories per week. Must be taken in a,b sequence.

420-6 (3, 3) Principles of Pharmacology. (a) Covers absorption, distribution, and metabolism of drugs and the action of certain drug classes on the living organism. Classes of drugs to be discussed include drugs affecting the autonomic nervous system, drugs used to treat neurological and psychiatric disorders, local anesthetics, neuromuscular blocking agents, and analgesics. Two lectures per week and one two-hour laboratory. Prerequisite: 310 or 410; 410 may be taken concurrently; organic chemistry. Some knowledge of biochemistry is needed. (b) Involves a discussion of the physiological and biochemical action of various classes of drugs. Classes of drugs to be discussed include general anesthetics, antihistaminics, diuretics, antibiotics, drugs used to treat cardiovascular disorders, and drugs affecting the endocrine system. Prerequisite: 420a; 310 or 410; organic chemistry.

430-4 (2, 2) Cellular Physiology. The nature and mechanisms of function of the living cell. Chemical and physical analysis of function at the cellular level. Two lectures per week. Prerequisite: organic chemistry.

433-6 (3, 3) Comparative Physiology. Variations of physiological processes in animal phyla, and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lectures per week. Prerequisite: one year of biological science.

440-6 (3, 3) Biophysics. (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: Mathematics 141 or equivalent; one year of college biological science including Physiology 310 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

450-3 Vertebrate Endocrinology. A survey of the major endocrine control systems of vertebrates. Emphasis will be on those mechanisms which trigger endocrine responses to maintain homeostasis. Prerequisite: 310; concurrent enrollment in 410 or demonstrated equivalency; or consent.

460-2 Electron Microscopy. Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

462-3 Biomedical Instrumentation and Measurements. (Same as Electrical Engineering 462.) Diagnostic and therapeutic modalities related to engineering. Includes study of cardiovascular, neural, sensory and respiratory instrumentation.

491-3 to 8 Independent Research for Honors. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

492-1 to 3 Special Problems in Physiology. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

Plant and Soil Science (Department, Major, Courses)

The Department of Plant and Soil Science includes crop production, horticulture, and soils. There are many widely varied opportunities for students with an interest in plants or soils. Students may choose a general option within the department and select most of their upper division credits from a wide choice of electives throughout the College of Agriculture and the University. If interests are more specialized, students may elect the science option and specialize in one particular area, or may elect a specialization which will combine a broad background in plants and soils with selected business courses and business related electives. A specialization in environmental studies would familiarize the student with environmental problems relating to plants and soils.

Students selecting the landscape horticulture specialization can prepare for interesting careers in landscaping or gardening in parks, playgrounds, residential

or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

Opportunities for individual program development within the various options may be realized through work experience, internships, special studies, and seminars; however, no more than 30 hours of such unstructured coursework may be counted toward the degree. Students in all specializations are urged to make use of them to meet the goals and needs of their respective programs.

Students in all specializations must complete the plant and soil science core. These courses are Plant and Soil Science 200, 220, 240, one hour of 381, and Agricultural Education and Mechanization 318 or 418 or an acceptable substitute.

There may be extra expenses for field trips, manuals, or supplies in some courses.

Bachelor of Science Degree, College of Agriculture

	SPECIALIZATIONS		
	General	Science	Business
<i>General Education Requirements</i>	48	48	48
Physics 203a or physics substitute ¹	—	3	—
Chemistry 140a substituted for GEA 106-3	4	—	4
Chemistry 222a	—	4	—
Botany 200 substituted for GEA 115-3	4	4	4
Agribusiness Economics 204 substituted for GEB 211	3	3	3
GEB 202	—	—	3
GED 101	3	3	3
GED 107	3	—	3
GED 102	3	3	3
GED 153	3	3	3
Mathematics 108 ³	—	3	—
<i>Requirements for Major in Plant and Soil Science</i>	53	68	64
Courses in two other departments in agriculture (may include Agricultural Education and Mechanization 318 or 418)	6	6	6
Botany 320	4	4	4
Chemistry 140b	4	—	4
Chemistry 222b, 380a,b	—	12	—
Mathematics 109, 141	—	7	—
Physics 203b	—	3	—
Plant and Soil Science 200, 220, 240, 381-1, Agricultural Education and Mechanization 318 or 418	11	11	11
Other Plant and Soil Science courses ² ..	17	17	17
Other Agriculture electives	11	6	6
Mathematics, physical sciences, or biological sciences	—	2	—

¹Physics 205a may be substituted.
²Plant and soil science electives must include 15 hours of structured coursework at the 300 or 400-level, with no less than 9 hours at the 400-level.
³Mathematics 111 may be substituted.

Accounting 210, Management 301 or 304, Marketing 304, or Agribusiness Economics 360	—	—	9
Business electives and supporting courses	—	—	7
Electives	19	4	8
Total	120	120	120

PLANT AND SOIL SCIENCE MAJOR – LANDSCAPE HORTICULTURE SPECIALIZATION

General Education Requirements	48
Chemistry 140a substituted for GEA 106-3	4
Botany 200 substituted for GEA 115-3	4
Agribusiness Economics 204 substituted for GEB 211	3
GED 101	3
GED 107	3
GED 102	3
GED 153	3
Requirements for Major in Plant and Soil Science with a Specialization in Landscape Horticulture	63-65
Agricultural Education and Mechanization 371, 374, 318 or 418	7
Biology 307	3
Botany 320 and 356 or 357	7-8
Chemistry 140b	4
Plant and Soil Science 200, 220, 240, 322, 327, 328a,b, 381-1, 428a,b, 432 or 434	30-31
Agriculture electives	9
Zoology 316	3
Electives	7-9
Total	120

PLANT AND SOIL SCIENCE MAJOR – ENVIRONMENTAL STUDIES SPECIALIZATION

General Education Requirement	48
Chemistry 222a or chemistry substitute	4
Botany 200 substituted for GEA 115-3	4
GEA 330	3
Agribusiness Economics 204 substituted for GEB 211	3
GEB 114	3
GEC 221	3
GED 101	3
GED 102	3
GED 153	3
Mathematics 108 substituted for GED 107	3
Requirements for Major in Plant and Soil Science with a Specialization in Environmental Studies	64
Agriculture 333	2
Animal Science 455	2
Agricultural Education and Mechanization 318 or 418	3
Agribusiness Economics 401	3
Plant and Soil Science 200, 220, 240, 381-1, 419, 420, 441, 447, 468	27
Agriculture electives, Plant and Soil Science 328a and 446 highly recommended	6
Civil Engineering 314	3
Political Science 325	3

Mathematics 109 ¹ and 141.....	7
Chemistry 222b.....	4
Botany 320.....	4
Electives	8
Total	120

¹Mathematics 111 may be substituted.

Minor

A minor in plant and soil science is also available to those interested in field crop production, horticulture, or soils. A total of 16 hours of credit is required with at least 12 hours taken at the University. One course may be selected from 200, 220, or 240; and at least eight hours from 300 or 400 level structured courses. The chairperson should be consulted for assistance in selecting this field as a minor.

Certification

Students may be certified as agronomist, crop scientist (specialist), or soil scientist, (specialist, classifier) by completing a program approved by the American Registry of Certified Professionals in Agronomy, Crops and Soils. Students with any of the above specializations may complete the certification programs, although those with a science specialization will find they can complete the program with few hours beyond the number required for a bachelor's degree. Most of the certification requirements can be completed with proper selection of courses as General Education substitutes and by using elective courses to fulfill certification requirements. Students are encouraged to discuss their interests with a departmental representative to obtain additional information.

	AREA OF CERTIFICATION ⁴		
	Agronomist	Crop Scientist	Soil Scientist
<i>General Education Requirements</i>	48	48	48
Physics 203a substituted for GEA 101 ¹	3	3	3
Chemistry 222a substituted for GEA 106.....	4	4	4
Botany 200 substituted for GEA 115.....	4	4	4
Agribusiness Economics 204 substituted for GEB 211.....	3	3	3
GED 101	3	3	3
GED 102	3	3	3
GED 153	3	3	3
Mathematics 108 ³ substitutes for GED 107.....	3	3	3
Other General Education requirements	22	22	22
<i>Requirements for Major in Plant and Soil Science</i>	73	73	73
Courses in two other departments in agriculture (All options must take Agricultural Education and Mechanization 318 or 418. It fulfills additional mathematics requirement for Agronomist and Soil Scientist option).	6	6	6

Biological science elective	2	4	—
Botany 320	4	4	4
Chemistry 222b, 380a,b	12	12	12
Economics elective	3	3	—
Engineering elective	—	—	3
Geology 220	—	—	3
Pest management/plant protection (weed science, plant pathology, entomology)	6	6	—
Mathematics (including statistics requirement) 140 and 283	7	7	7
Plant and Soil Science 200, 220, 240, and 381-1	11	11	11
Other Plant and Soil Science courses: ²			
Crop sciences	3	12	3
Soil sciences	3	3	11
Agronomy electives	9	3	3
Agriculture electives	7	2	10
Total	121	121	121

¹Physics 205a may be substituted.
²Plant and soil science electives must include 15 hours of structured coursework at the 300- or 400-level, with no less than 9 hours at the 400-level.
³Mathematics 111 may be substituted.
⁴Meets requirements for certification by the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS).

Courses

100-2 Plants for Society. How plants have affected the development and culture of society. Inter-relationship between plants and people. Importance of plants for beauty, food, fiber, medicine, and drugs. Not applicable to a major or minor in plant and soil science, but may be used as agriculture elective.

140-2 Soils for Society. The importance of soil in everyday life. Soil as a medium for plants grown for food, fiber and leisure. The importance of soil in reducing harmful chemicals and wastes and improving our environment. Not applicable to a major or minor in plant and soil science, but may be used as agriculture elective.

200-3 Introduction to Crop Science. Production of important field crops of the world with greatest emphasis on U.S. and midwestern field crops; crop production changes and adjustments, crop distribution over U.S., and crop groups and classifications, special agronomic problems, crop enemies, crop ecology, fertilizer and liming practices, tillage, crop improvement through breeding. Field trip (no cost).

220-3 General Horticulture. General principles of plant propagation, vegetable growing, fruit growing, landscape gardening, and floriculture. Seniors cannot enroll without consent of instructor. Prerequisite: Botany 200 or equivalent.

225-2 Genetics for the Amateur Gardener. An introduction to the essential principles of genetics and plant hybridization utilizing common garden and house plants.

228-2 Floral Arrangements. Theory and practice in the art of flower and plant arrangement for the home, show, and special occasions. History, elements, and principles of design and use of color. Laboratory fee approximately \$25.

238-2 Home Gardening. Vegetable gardening techniques for the home gardener. Both inorganic and organic methods are used together with the latest recommended varieties for the small garden.

240-4 Soil Science. Basic and applied chemical, physical, and biological concepts in soils. The origin, classification and distribution of soils and their relationship to humans and plant growth. Prerequisite: Chemistry 140b or equivalent; geology suggested.

257-1 to 10 Work Experience. Credit for on-campus work experience in the areas of plant and soil science, or credit through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Credit awarded based on 4 hours of work per week during the semester for each hour of credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

300-5 (2, 3) Field Crop Production. Principles of growth and production of field crops and their utilization. (a) Primarily corn and soybeans. (b) Small grains, primarily wheat and grain sorghum,

with laboratory demonstrating principles discussed in both **a** and **b** including research projects, and grading and utilization of grain. Laboratory field trips, approximately \$5. Prerequisite: an introductory crops course or consent of instructor.

305-4 Plant Genetics. Principles of genetics and evolution of plants, elementary plant breeding, and the interaction between plant breeding and industry. Prerequisite: a course in biology or botany.

310-3 Morphology of Crop Plants. Cellular structure, vegetative and reproductive development, and gross morphology of major crop plants. Utilization of crop plant parts. Prerequisite: one course in introductory biology or equivalent.

322-3 Turfgrass Management. Principles and methods of establishing and maintaining turfgrass for lawns, recreational areas, and public grounds. Identification of basic plant and soil materials and management of turfgrasses in variable environments. Prerequisite: a biology course.

325-3 Garden Flowers. Culture, identification, and use of flowering bulbs, annuals, biennials, and perennials in the home flower garden. Prerequisite: an introductory course in biology or consent of instructor.

327-3 Landscape Plant Materials. Identification, usage and adaptability to the landscape of woody (deciduous and evergreen) and ornamental shrubs, trees and vines. Use of plant keys. Prerequisite: an introductory botany course or consent of instructor.

328-4 (2, 2) Appreciation of Landscape Design. (a) Introduction to theory and principles of landscape design as applied to the modern home. Property selection and climate control. (b) Laboratory. Practical application in modern methods of property planning including the individual components of the completed landscape plan and selection of plants. Prerequisite: 327 and Agriculture Education and Mechanization 371 and 374 or equivalent.

356-4 Plant Pathology. (Same as Botany 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: Botany 200 or equivalent; Botany 320 recommended.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agri-business. Prerequisite: junior standing and approval of department. Mandatory Pass/Fail.

380-4 (2, 1, 1) Plant and Soil Evaluations. (a) Grain grading to include crop and weed identification and seed identification and analysis. (b) Comparative evaluation and judging of horticultural crops to include flowers, fruits, vegetables, woody ornamentals. Field trip costing approximately \$25. (c) Soil evaluation to include identification of genetic horizons, their physical characteristics and classification. Field trips (no cost). These courses are not required for participation in SIU judging team activities.

381-1 to 2 (1, 1) Plant and Soil Science Seminar. Discussion of special topics and/or problems in the various areas of plant and soil science. Prerequisite: GED 153 and junior standing.

390-1 to 4 Special Studies in Plant and Soil Science. Assignments involving research and individual problems. Prerequisite: consent of department chairperson.

391-1 to 4 Honors in Plant and Soil Science. Independent undergraduate research sufficiently important to three hours per week of productive effort for each credit hour. Prerequisite: junior standing, GPA of 3.0 with a 3.25 in the major, and consent of department chairperson.

400-2 Trends in Agronomy. A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

405-3 Plant Breeding. Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent.

408-3 World Crop Production Problems. Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200.

409-3 Crop Physiology and Ecology. The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Botany 320 or consent of instructor.

419-3 Forage Crop Management. Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5.00. Prerequisite: Botany 200 or one course in biology or equivalent.

420-4 Crop Pest Control. Study of field pests of forest; orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

422-3 Turfgrass Science. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips costing approximately \$5. Prerequisite: 220 or consent of instructor.

424-4 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costing approximately \$25. Prerequisite: 423 or consent of instructor.

428-6 (3, 3) Advanced Landscape Design. Theory and principles of residential landscape design. Practice in drawing residential landscape plans. (a) Emphasis on arrangement of unit areas. (b) Emphasis on details of design and selection of plants. Prerequisite: 328-4 or consent of instructor.

430-4 Plant Propagation. Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Field trip costing approximately \$5. Prerequisite: 220.

432-4 Nursery Management. Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a, or consent of instructor.

434-3 Woody Plant Maintenance. Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 202 or consent of instructor.

436-4 Fruit Production. Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

437-4 Vegetable Production. Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trip costing approximately \$5. Prerequisite: 220 or consent of department.

441-3 Soil Morphology and Classification. Development, characteristics, and identification of soils, study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costing approximately \$5. Prerequisite: 240 or consent of instructor.

442-3 Soil Physics. A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.

443-3 Soil Management. The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240.

445-3 Irrigation Principles and Practices. This course will cover basic principles of irrigation sciences; water requirements of crops; soil water relationship; water application methods including flooding, sprinkler, and drip (or trickle) systems; water conveyance, distribution and measurement; evaluation of irrigation efficiency; and irrigation scheduling. Considerations will also include crop production effects and economic aspects of irrigation. Prerequisite: 240; or consent of instructor.

446-3 Soil and Water Conservation. Covers the principles of hydrologic processes and soil erosion. Consideration will be given to the occurrence of soil erosion as it affects humans, food production, and the environment. The methods and technologies for protecting against and controlling of erosion will also be discussed. Prerequisite: 240 and GED 107 or consent of instructor.

447-3 Fertilizers and Soil Fertility. Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240; concurrent enrollment in 448 suggested.

448-2 Soil Fertility Evaluation. A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

454-4 Microbial Processes in Soils. A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic matter, minerals, and nitrogen in soil. Prerequisite: 240 or Microbiology 301.

468-3 Weeds – Their Control. Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical control of weeds. State and Federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field Trips costing approximately \$5. Prerequisite: an introductory biology course.

470-2 Post Harvest Handling of Horticultural Commodities. Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental, and floricultural commodities. Field trip costing approximately \$30. Prerequisite: 220 and Botany 320.

Political Science (Department, Major, Courses)

The study of political science is concerned with predicting, explaining, and evalu-

ating the political behavior, beliefs, laws, and organizational arrangements of people in a variety of settings. A major in political science provides rigorous social science training. A variety of courses afford a student an opportunity to study, in depth, individual and group behavior, political, administrative, and judicial processes, comparative national and subnational governmental systems, intergovernmental relations and conflict resolution, and normative and empirical political theory. The student who is interested in the public sector will find discussions of such topics as voting behavior, American foreign policy, and the decisions and opinions of Supreme Court justices to be challenging experiences.

A major in political science provides excellent training for the public service, scientific polling and political analysis, management training programs, and teaching, particularly at the secondary level. A political science major also provides an excellent foundation for professional graduate training in law, journalism, public administration or public affairs, as well as for graduate work in political science which is essential for a career in higher education. For the non-vocationally oriented student, political science is an excellent major for anyone with a keen interest in politics and public affairs.

A student planning to major in political science should consult with the academic adviser of the department as early as possible in order to plan an orderly and coherent program. All members of the department are available for consultation on their academic specialties.

Students majoring in political science must take GEB 114 and must fulfill the College of Liberal Arts mathematics or computer science requirement by taking one of the following courses: Mathematics 283 (preferred), 282, 150 or 250. Political Science 200, 213, 270, 378, and GEB 250 are background courses for many advanced courses in the department. In fulfilling General Education requirements or in choosing electives, political science majors should select courses from economics, psychology, sociology, anthropology, geography, and history. Mathematical or statistical training is highly recommended because of the emphasis on empirical research and analysis in political science. Such training will also enhance vocational opportunities. Depending on special interest, a student should also consider courses in foreign languages or computer science. Such courses are particularly important for the student who is planning to enter graduate school.

Qualified students are encouraged to inquire about individualized courses of study such as Political Science 390, 395, and 494. The interested student should contact the academic adviser of the department or a member of the faculty.

At least fifteen of the required thirty-three credit hours for political science must be earned at Southern Illinois University at Carbondale.

Bachelor of Arts, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in Political Science</i>	33

GEB 114, or equivalent

Political science majors must fulfill the College of Liberal Arts mathematics or computer science requirement by taking one of the following courses: Mathematics 283 (preferred), 282, 150 or 250. Additional political science courses, including the 200 level GEB course offered by the department, must total 33 hours. Courses shall be distributed so that a minimum of one course is taken in 5 of the following 6 areas: scope, methods, and political theory; American politics; public law; public administration; comparative politics; and international relations. GEB 114 does not satisfy an area requirement. A minimum of three courses must be taken at the 400 level.

<i>Electives</i>	27-33
<i>Total</i>	120

Bachelor of Science Degree, College of Education

A major in political science for education requires 33 credit hours of work in the department. This work must be distributed among the subfields of the discipline in the same manner as the 33-hour requirement described above for the Bachelor of Arts degree.

Every student enrolled in this program should seek regular advisement in the Department of Political Science to ensure that department requirements will be fulfilled.

Students obtaining a Bachelor of Science degree in the College of Education must satisfy all requirements of that college. See Teacher Education Program, Chapter 3. Professional education and other certification requirements may be found in the section of this catalog titled Curriculum and Instruction. All students enrolled in a teacher education program are required to take a special methods course. Since there is no methods course in political science, Curriculum and Instruction 469 is a required course for all students in this program. The course should be completed before student teaching. A student enrolled in the teacher education program is required to have a 2.50 grade point average in political science in order to be recommended for student teaching by the department.

Minor

A minor in political science consists of 15 hours to be approved by the department adviser. Nine of these hours must be earned at SIUC.¹

¹Students completing a minor in political science for purposes of obtaining teacher certification in the State of Illinois must complete a minimum of 18 semester hours in the minor area.

Research and Teaching

The faculty in the department come from a variety of academic institutions located in different parts of the country. Faculty research has received national recognition and quality of teaching is accorded a high priority. Virtually all political science courses are taught by full-time faculty. The department emphasizes small sections and a close student/faculty relationship.

Advisement

Students in political science have access both to the excellent advisement services in the College of Liberal Arts and to a faculty adviser in the department. Each student is assigned a political science professor to whom he or she can turn for academic counseling. Help is offered in course selection and registration, in long-range planning for the degree program and career information.

Awards

The department administers four endowed annual awards. Two are awarded competitively, one to the highest ranking junior in political science and the other to the highest ranking senior in the major. Students may also qualify for membership in the national political science honor society. See the awards brochure and your adviser for additional information on eligibility requirements.

Courses

The numbers preceding the following course titles have been designed to group courses by subject matter as well as level. A summary explaining the numbering system follows:

COURSE	LAST TWO DIGITS OF COURSE NUMBER
Scope, Methods, and Political Theory	00-09
American Politics	10-29
Public Law	30-39
Public Administration	40-49
Comparative Politics	50-69
International Relations	70-89
Miscellaneous	90-99

Courses

200-3 Introduction to the Discipline of Political Science: Scope. Examination of the philosophy, methodology, theories, approaches and relevant generalizations of the study of politics and of the scope and subfields of political science. Not open to seniors without instructor's consent.

207-3 Contemporary Political Ideologies. A survey of recent political ideologies: Nationalism, Socialism, Communism, Liberal Democracy, Conservatism, Christian Socialism, Fascism, Contemporary Liberation Movements.

213-3 State and Local Government. Structure, functions, and decision-making processes of subnational governments in the United States. Prerequisite: GEB 114.

214-3 Illinois Government. The politics, structure, and function of state and local governments in Illinois with stress upon the historical development of the political culture, current issues and events in the light of the historical background, and the interrelationship of politics, structure, and policy. Prerequisite: 213 or sophomore standing.

220-3 Problems in American Public Policy. Study and analysis of selected public policies and programs. Examination of major issues will have a problem orientation and their selection will vary. The following topics will usually be included: political economy, defense, welfare and health, urban affairs, and the relationship between the media, energy, education and politics. Prerequisite: GEB 114 recommended.

270-3 Introduction to International Relations. A study of world politics. The cause of international conflict and conditions of peace.

300-3 Introduction to the Discipline of Political Science: Methods. An examination of the research methods and data analysis techniques used by political scientists in their analysis of political questions and problems. Prerequisite: None, 200 recommended.

303-3 Introduction to Political Theory. Normative and testable theories in political science are introduced and interrelated. Guidelines for applying those theories to empirical and ethical problems are discussed. Prerequisite: 200 recommended.

316-3 Political Socialization. (Same as Sociology 316.) An inquiry into interdisciplinary empirical theory and research on political learning relevant to (1) who (2) learns what (3) from whom (4) under what circumstances (5) with what effects. Prerequisite: 200 or GEB 114 or instructor's consent.

317-3 Public Opinion and Electoral Behavior. The nature and function of public opinion as it is related to electoral behavior. Additional sociological and psychological bases of voting behavior will be studied. Prerequisite: None; 200 recommended.

318-3 Political Campaigns and Elections. (Same as Speech Communication 358.) Analysis of modern political campaigns and the role they play in a democracy. Emphasis will be on recent developments in the planning and execution of campaigns by mass media and communication specialists and the role of the political parties and the public opinion polls in this process. Prerequisite: GEB 114.

319-3 Political Parties. Nature, structure, and functions of political parties, with particular attention to the roles and activities of political parties in the United States. Attention also given to voting behavior and elections. Prerequisite: GEB 114.

321-3 The Legislative Process. A comparative analysis of legislatures and legislative behavior. Emphasis is on the United States Congress. Prerequisite: GEB 114.

322-3 American Chief Executive. The origin and background of the presidency and the governorship, qualifications, nomination and election, succession and removal, the organization of the executive branch, and the powers and functions of the president and governor. Prerequisite: GEB 114.

324-3 Politics and Public Policy. The public policy-making process in the United States evaluated and a wide range of public policy programs analyzed. Prerequisite: GEB 114.

325-3 Politics and Environmental Policy. Prompted by the conservation lobbies, United States and state legislatures moved to preserve the biosphere and to create a healthier human environment. The course will cover the traditional common law remedies to protect the citizens and their property from the hazards of pollution and new broader constitutional and/or statutory right to a clean, healthy, and pleasant environment. Prerequisite: None; GEA/GEB/GEC 221 or Political Science 340 recommended.

328-3 Field Research in Public Policy. Students study public policy of their choice, individu-

ally or in teams, using field research techniques such as interviewing, direct observation, and inspection of public records. The policy studied is then evaluated in light of student-developed concepts of the public interest. Prerequisite: GEB 114.

330-3 Introduction to the Legal Process. Designed to provide a basic background in the United States legal process for students who want only an overview of the process or who plan to take an extensive number of additional courses in the judicial area. The course will survey the history of common law, legal reasoning, basic terminology, conventional legal research, the legal profession, and provide an introduction to civil and criminal processes. Prerequisite: GEB 114.

332-3 Introduction to Civil Liberties and Civil Rights. Course focuses on civil rights (e.g. voting, housing, employment, education) in terms of congressional statutes, the judicial rulings which led up to them, the administrative development and judicial interpretation of the statutes. Prerequisite: GEB 114 recommended.

334-3 Criminal Justice in Society and Court Management. Designed to provide the student with an in-depth look at the organization and management of federal, state, and local criminal courts. Focuses on the criminal process and the rights of defendants as they are processed by the system. Prerequisite: GEB 114 recommended.

340-3 Introduction to Public Administration. An introduction to the study of public bureaucracy. Theoretical, political, and practical issues of organization, staffing, financing, and other matters are surveyed. United States administration and organizational behavior are stressed. Prerequisite: GEB 114.

353-3 Comparative Communist Systems. General introduction to the political systems of communist states with special emphasis on Eastern Europe. Attention given to the role of ideology, the character and role of the party, and major decision making structures and processes.

354-3 Political Violence. Comparison of several forms of political violence: war, revolution, terrorism, assassination, urban guerrilla warfare. The national and individual correlates of violence will be studied.

366-3 Introduction to Latin American Government and Politics. A general introduction to Latin American government as the institutionalized political expression of Latin American civilization and culture. Does not require a reading knowledge of Spanish or Portuguese.

371-3 International Political Economy. Political dynamics of international trade, finance, investment, multinational corporations, energy, development, world wealth distribution, technology transfers. Politics of economic relations between East and West, rich and poor. Assumes that the political system shapes the economic system, that political concerns often shape economic policy, and that international economic relations are political relations. Prerequisite: none; 270 or economics course recommended.

373-3 International and Transnational Organizations. The growth and role of international organizations, with special attention to the political effects of military, economic and ecological interdependence. The United Nations, regional organizations, and non-governmental organizations. The effects of these organizations on international peace and justice. Prerequisite: none; 270 recommended.

378-3 Introduction to American Foreign Policy. An investigation of the means by which American foreign policy is formulated and executed and an analysis of the most significant challenges confronting America abroad.

383-3 International Relations of Communist States. History and analysis of the foreign policies principally of the Soviet Union and China, with some attention to Eastern Europe, North Korea, Vietnam, and Cuba. Prerequisite: 353 or GEB 250 or consent of instructor.

390-1 to 6 Readings in Political Science. In-depth, introductory and advanced readings in areas not currently covered in other political science courses. Student must choose a faculty member to direct reading and must obtain consent prior to registration. Fifteen hundred pages of reading per credit hour recommended. Name of faculty member must be filed with the undergraduate adviser of the department at registration. Limited to three hours of reading per semester. Exceptions must be approved by the advisement coordinator. Prerequisite: consent of instructor prior to registration.

395-1 to 12 Internship in Public Affairs. Supervised field work in the office of a governmental agency, political party, interest group, legal agency, or other public affairs-oriented organization. A faculty-supervised paper is required in which the student relates the academic and internship experiences. Students must choose a faculty member to direct internship and obtain consent prior to registration. Name of faculty member must be filed with undergraduate adviser of the department at registration. Political Science 395 is open only to students who are confirmed Political Science majors or minors. Students must have taken at least two courses in the department with a minimum grade point average of 2.5 in these courses. No more than six hours may be counted toward a departmental major. A written description identifying the specific organization, the projected tasks, and responsibilities of the intern should be prepared prior to meeting with the faculty sponsor.

403-4 Philosophy of Politics. (See Philosophy 441.)

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor.

405-3 Democratic Theory. An examination of various species and aspects of democratic

thought, including the liberal tradition and its impact upon the United States. Prerequisite: GEB 114 or consent of instructor.

406-3 Socialist Thought. An examination of socialist thought regarding social structure, economic institutions, and political power. Prerequisite: senior or graduate standing or consent of instructor.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor.

413-3 Contemporary Intergovernmental Relations. An examination of relationships among national, state, and local governments in the American federal system, with emphasis on recent literature and contemporary issues. Special attention is given to fiscal relations, and specific intergovernmental programs in areas such as housing and environmental quality are examined. Prerequisite: GEB 114.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 213.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213.

416-3 Senior Seminar in Politics. Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended.

417-3 Political Psychology. An examination of various psychological theories as they relate to the development and change of political attitudes, leadership behavior, and mass political participation. Prerequisite: 200 recommended.

418-3 Political Communications. (See Speech Communication 451.)

419-4 Political Sociology. (See Sociology 475.)

429-3 Women and the American Political Process. (Same as Women's Studies 445.) Focuses on the role of women in the American political system. Examines the political behavior of women as voters and as political elites. Also analyzes policies regarding women's issues, such as comparable worth, affirmative action, and reproductive rights.

433-6 (3, 3) Constitutional Law. (a) This, the initial course in a two-course sequence, is concerned with the basic structure and power relationships in the American constitutional system. Topics include judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, the contract clause, and substantive due process. Prerequisite: GEB 114. Political Science 330 recommended. (b) This, the second course in the constitutional law sequence concentrates on those provisions of the U.S. Constitution which protect individual rights and liberties against government encroachment. Prerequisite: GEB 114.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: 340 or GEB 114 recommended.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights.

441-3 Administration of Bureaucratic Organizations. A study of the elements of bureaucratic organization and of problems and procedures in administration of complex public agencies. Emphasis is placed on the personnel aspects of public bureaucracy, including the history and structure of civil service systems, conditions of public service employment, and issues in leadership and supervision. Prerequisite: 340 or consent of instructor.

443-3 Public Financial Administration. An examination of governmental revenues and expenditures, with emphasis on state and local governments. Special attention is given to patterns of taxation and expenditure, intergovernmental fiscal relations, municipal debt, and administrative decisionmaking. Prerequisite: 213 recommended.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangement and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act.

446-3 Museum Administration. A comprehensive introduction to museum administration and management, including fiscal and budget oversight; an understanding of museum ethics; acquisi-

tion, conservation, and exhibition planning; personnel matters; and museum research. Museum practicum and research stressed.

447-4 to 5 (3, 1 or 2) Urban Planning. (See Geography 470a,b.)

452-3 The Politics of Developing Areas. A comparative study of the principal features of traditional, transitional, and modern political systems, patterns of political socialization and culture as well as leadership recruitment and client-patron relationships in traditional and transitional political systems, the nature of political participation in predominately agrarian societies, and the strategies utilized to rule and to legitimize the rule of predominately post-colonial societies. Prerequisite: none. GEB 250 recommended.

455-3 Comparative Public Administration. Administrative attitudes, behaviors, and institutions are compared on a topical basis in governments of Britain, Europe, the United States, Japan, and selected socialist, developing, and ancient states.

456-3 Comparative Social Policy. Issues of the modern welfare state in comparative perspective. Factors affecting the extent and nature of the welfare state in the United States. The problem of what types of policies would be most effective in achieving alternative types of welfare results. Emphasis on comparative analysis and interrelationships within larger social systems.

457-3 Great Britain and the Commonwealth. The nature of the Commonwealth Association and the politics of Great Britain and the "Old Commonwealth" countries: Australia, Canada, New Zealand. Prerequisite: none. GEB 250 recommended.

458-3 Contemporary Western Europe. Comparative study of contemporary political systems and policy issues of Western Europe. Emphasis on selected countries and common problems facing governments. Topics covered include the European community, security, economic, energy, and social policies, and study of various governing processes.

459-3 Government and Politics of the Soviet Union. Dynamics of Soviet government and economy. Prerequisite: none. GEB 250 recommended.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. GEB 250 recommended.

462-3 Governments and Politics of Vietnam. Origins of revolution. The war for national reunification. Impact of American involvement. Contemporary problems of consolidation and development under communist rule. Implications for regional security. Prerequisite: GEB 250 recommended.

463-3 Government and Politics of China. Internal political, economic, and social development of China. Prerequisite: none. GEB 250 recommended.

464-3 Governments and Politics in the Middle East. Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: none. GEB 250 recommended.

465-3 Governments and Politics of Sub-Saharan Africa. (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and politics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations, and non-African states. Prerequisite: none. GEB 250 recommended.

466-4 Governments and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended.

468-3 Comparative Civil-Military Politics. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalization of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: none. GEB 250 recommended.

475-6 (3, 3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 475a.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: none. 378 recommended.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment.

485-3 International Relations of the Far East. The political and strategic problems and the interplay of the foreign policies of the major powers in this area. Prerequisite: none. 270 recommended or History 380 recommended.

488-3 International Relations of the Western Hemisphere. Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. 270 recommended.

494-1 to 6 Honors Research. Directed research for senior government honors students. Not for graduate students. Prerequisite: consent of instructor and chairperson. Student must have at least a *B* average in political science.

Professional Education Experiences

Student Teaching

Student teaching constitutes a full professional commitment on the part of the student and is a full professional semester of experience in the field carrying 12 hours of credit. Special permission must be obtained from the Coordinator of Professional Education Experiences before any additional course work can be taken with student teaching.

The student teacher must follow the same daily schedule as the cooperating teacher with whom the student is placed. This means that the student teacher remains in the school for the entire day, as well as participating in whatever extracurricular activities might be the responsibility of the cooperating teacher.

Students majoring in elementary education will be assigned to work with a cooperating teacher in one of the elementary grades, one through six, in an affiliated school. Students majoring in early childhood will be assigned to work with a cooperating teacher in a kindergarten or primary grade, one through three, in an affiliated school.

The student who majors in a secondary school subject field which has an approved program in the teacher education program will be assigned to work with a cooperating teacher in a secondary school, grades seven through twelve, whose teaching assignment is consistent with the student's teaching major.

Special education majors will be assigned to work with a cooperating teacher in the appropriate special area: mental retardation, behavioral disorders, or learning disabilities. Special education majors will be assigned at both the elementary and secondary levels in order to meet certification requirements. Similar grade level assignments will be made for art, music, and physical education majors. Students majoring in communication disorders and sciences will be assigned to a cooperating teacher who is a speech clinician in an affiliated school.

Students wishing to enroll in the professional semester during the fall or spring semester of the academic year must file an application with the College of Education Student Services, Wham Building, Room 135, at least one semester in advance of the semester during which they wish an assignment. Student teaching credit during the summer session is restricted to those individuals who hold either a provisional teaching certificate or a teaching certificate in a field other than the one for which they are seeking certification. Participation in this program also is dependent upon the availability of suitable placements in the summer school programs of participating public schools.

Applications for both regular academic year and special summer participation are available in the College of Education Student Services, Wham Building, room 135.

The student must register for the professional semester following normal registration procedures. Registration will include the following course: Education 401, 12 hours. Students will register for the section of this course designated for their majors. Registration during the summer session is by restricted class card for Education 402, 5-8 hours.

PLACEMENT OF STUDENT TEACHERS

Student teaching under the supervision of Southern Illinois University at Carbondale faculty is conducted in professional education centers with affiliated schools located in southern Illinois as well as specific locations in Belleville and

suburban Chicago. A current listing of specific schools to which student teachers may be assigned is available in the College of Education Student Services.

In so far as numerical limits will permit, students will be assigned to the location of their choice. However, if the limits have been met, students are advised that they may be assigned to any of the centers which can suitably accommodate them.

Students are advised to make no binding housing commitments during the professional semester until they have received verification of their student teaching assignments. Such housing commitments will not be considered when students are assigned.

PROFESSIONAL SEMESTER – (STUDENT TEACHING) PREREQUISITES

1. Students must have achieved formal acceptance into the teacher education program and must present their records of acceptance when applying for the professional semester.
2. The student is responsible for having all transcripts of credit earned at colleges or universities other than Southern Illinois University at Carbondale on file with the coordinator in the College of Education Student Services. These must be on file by the tenth day of the semester for which the student is applying.
3. Prior to the professional semester, the student must have completed a minimum of 20 semester hours in the subject area to be taught. The course work involved must meet the approval of the department chairperson of that major department. (Course work and performance required may be obtained from the department concerned.) An up-to-date list of approved majors in the teacher education program may be found in the booklet, *The Teacher Education Program*, or requested from the College of Education Student Services.
4. The student must have completed a minimum of 100 clock hours of pre-student teaching field experiences.
5. The student must have completed 75 semester hours of credit with a minimum cumulative average of 2.5 in the major before beginning work in student teaching.
6. Each of those courses which are a part of the professional education sequence prior to the professional semester must have been completed with a grade of C or better. (See Teacher Education Program, Chapter 3.)
7. The student must have completed the special methods class required for the major prior to the professional semester.
8. Every student teacher must have a health clearance from the University Student Health Program. The health clearance consists of a tuberculin test. If it is not convenient to come to the health service in Carbondale, students may have a tuberculin test by their own medical doctors. A record of the health clearance must be on file in the College of Education Student Services by the tenth day of the semester immediately preceding the student's professional semester.
9. The student must have established at least one semester of residence at Southern Illinois University at Carbondale earning a minimum of 12 semester hours of credit, prior to any professional semester assignment.

Field Experiences Other Than the Professional Semester

Other field experiences for students in the teacher education program are provided in Education 310 and Education 316. Applications for these courses are available in the College of Education Student Services.

Psychology (Department, Major, Courses)

The undergraduate program in psychology provides a broad general education in the tradition of the liberal arts. This tradition focuses on the development of wide-ranging interests in the arts, humanities, and social sciences, and on the development of critical and analytical thinking. A student who has earned a degree in one of the liberal arts, such as psychology, should be prepared to pursue lifelong learning and personal enrichment, as well as to enter the work force or to pursue more advanced studies.

Graduates of the psychology program who have entered the work force immediately have found employment in a wide variety of settings, ranging from sales and personnel work in the business sector, to positions with the human service agencies of local, state, and federal governments. Graduates who have gone on to advanced study have successfully prepared themselves for professional careers in such fields as law, medicine, and psychology.

Students planning to apply to law or medical schools after completing a major in psychology should plan their programs of study in close consultation with the pre-medical or pre-law advisers on campus. Students planning to apply for admission to graduate study in psychology should plan their undergraduate program of study very carefully in consultation with faculty advisers in the Department of Psychology. At least two years, and as many as six years, of graduate study are required for qualification as a professional psychologist, and admission to the graduate programs is highly selective and competitive.

Students who enter the University with a major in psychology should meet with the director of undergraduate studies in the Department of Psychology as soon as possible after arrival at the University in order to discuss their interests and plans of study. Students already at the University who wish to change to a major in psychology should contact the office of the director of undergraduate studies in the Department of Psychology in order to initiate the request for a change of major.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in Psychology</i>	37-40
GEB 202.....	(3)
Mathematics 108, 116, or 139 (choose one)	(3) + 0-2
Psychology 211, 212	8
Psychology Electives	29-30
Ten courses from the list below. At least six must be from Groups A, B, and C, with at least one course from each of these three groups. A minimum of three courses must be chosen at the 400-level from among the total offerings in the A, B, and C Groups.	
Group A: 301, 303, 304, 305, 307, 333, 349, 431, 432, 440, 451, 461, 463	
Group B: 302, 308, 309, 310, 371, 407, 409, 414, 415, 416, 419, 445	
Group C: 203, 320, 322, 323, 324, 340, 411, 413, 421, 441, 465	
Group D: 222, 389, 391, 392, 394, 489, 499	
A maximum of 3 hours of either 391 or 392 may apply toward fulfillment of major requirements.	
<i>Electives</i>	20-29
<i>Total</i>	120

Minor

A minor in psychology requires the successful completion of at least 15 semester hours (5 courses) in courses offered by the Department of Psychology and acceptable to the department for fulfillment of major requirements. Courses in other departments, such as the Department of Educational Psychology, do not fulfill minor requirements. Students completing a minor in psychology for purposes of qualifying to teach psychology in the State of Illinois must complete a minimum of 20 semester hours in psychology.

Students who are completing a minor in psychology should consult with the director of undergraduate studies in the Department of Psychology. Students who intend to meet minor requirements in whole or part by transfer of credit from other institutions should consult with the director of undergraduate studies in the Department of Psychology to ensure that the desired courses are transferable.

Senior Honors Program

A small number of students is selected each year for the honors program. Selection criteria are promising academic performance (3.0 overall grade point average and 3.25 psychology grade point average minimum), expressed interest, recommendation by departmental adviser, and capacity of program to take new students. Emphasis is on small seminar and individual research work by the student.

Courses

203-2 Careers in Psychology. A survey of fields of psychology from the perspective of available career options. Activities, required skills, rewards, and external constraints that characterize different career paths are discussed in relation to students' abilities and interests. Required of psychology majors, but open to any interested student. Should be taken as soon as possible following the introductory psychology course. Prerequisite: GEB 202.

211-4 Research Methods in Psychology. An introduction to the application of scientific methods to the study of behavior. Experimental design and methodology and correlational procedures are considered. Considerations of data analysis and interpretations are integrated with the treatment of design and methodology. Lecture and laboratory. Prerequisite: GEB 202.

212-4 Field Research Methods in Psychology. An introduction to field and other quasiexperimental methods appropriate for use in settings in which the researcher can exercise minimal control and manipulation. Included are designs and analytical methods for exploring cause-effect relationships in naturalistic settings. Lecture and laboratory. Prerequisite: 211 or consent of instructor.

222-3 Effects of Recreational Drugs on Mind and Body. Describes the physiological and psychological effects of substances used as recreational drugs for their psychoactive effects. Drugs discussed will include alcohol, amphetamines, cocaine and other stimulants, the barbiturates, methaqualone, the psychedelics, marijuana, tranquilizers, and the opiates. The purpose of the course is to provide the student with the facts concerning the effects of these drugs and the potential for their abuse and physiological and psychological dependence on them.

301-3 Child Psychology. The biological and psychological development of the child from birth through puberty, and relevant research methods and results. Prerequisite: GEB 202.

302-3 Psychobiology. A survey of the role of biological processes in the behavior of humans and other species. Topics include structure and function of the nervous system, behavioral endocrinology, psychopharmacology, sensorimotor functions, sleep and waking, motivation and emotion, reinforcement, psychopathology, and learning and memory.

303-3 Adolescent Psychology. Examines the physical and psychological development of the adolescent, and the relevance of childhood development to adolescent problems. Prerequisite: GEB 202.

304-3 Adult Development and Behavior. Introduction to theories of adult psychology and the physical, cognitive, social, and personality developments of adulthood. Prerequisite: GEB 202.

305-3 Psychology of Personality. The inferred patterns underlying an individual's unique reactions to the environment. Investigates the motivation, development, and methods of changing these patterns, and how personality processes are studied. Prerequisite: GEB 202.

307-3 Social Psychology. Surveys contemporary issues such as love and friendship, shyness and loneliness, sexual attitudes and behavior, management of impressions made on others, attitude change and persuasion, leadership, group processes, aggression, and helping behavior. Prerequisite: GEB 202.

308-3 Psychology of Motivation. Examines variables affecting motivation in animals and humans. Topics include motivation based on cultural processes as well as those based on biological needs. Prerequisite: GEB 202.

309-3 Psychology of Learning. Principles and laws of learning as derived from the classical and instrumental learning literature – acquisition, extinction, punishment, persistence, generalization, discrimination, motivation, drives, and incentives. Prerequisite: 211.

310-3 Cognitive Psychology. A survey of theory and research on attention, memory, language behavior, and problem solving. The principal orientation will be the information processing approach to the study of behavior. Prerequisite: GEB 202.

320-3 Industrial and Organizational Psychology. Introduction to industrial and organizational psychology. Emphasis is on psychological methods and psychological factors in the analysis and design of jobs and the work environment, and on the training, motivation, and evaluation of performance in the work setting. Prerequisite: GEB 202.

322-3 Personnel Psychology. Examines the methods of psychology used in the selection, placement, and evaluation of employees. Government regulations requiring equal opportunity, psychological measurement concepts, and employee performance evaluation in the work environment are covered. Prerequisite: GEB 202.

323-3 Psychology of Employee Relations. Applied human relations at work focusing on interpersonal and small-group behavior. Covers effective communication, employee morale and motivating others, behavior modification, leadership and group dynamics, human relations and the law, and stress and coping. Prerequisite: GEB 202.

324-3 Environmental Psychology. An examination of human behavior in its sociophysical context designed for students of psychology and the experimental and design fields. Topics include models of behavior-environment relationships; effects of such environmental stressors as noise and crowding; personal space and territoriality; controlling environmental use and abuse; and characteristics of such familiar environments as home, school, workplace, and city. Prerequisite: 307 or consent of instructor.

333-3 Psychology of Women. (Same as Women's Studies 341.) An examination of empirical evidence on the biological, psychological, and social functioning of women, describing women's roles, the genetic versus social determinants of women's behavior, and the implications for women's potential. Prerequisite: GEB 202 or consent of instructor.

340-3 Introduction to Clinical and Counseling Psychology. Provides an in-depth understanding of the nature of two major specialties in the field of psychology: clinical and counseling psychology. Students will examine the historical origins of the two areas, study their major theoretical definitions, compare and contrast the areas, and sample empirical and practitioner activities unique to them. Prerequisite: GEB 202.

349-3 Psychology of the Small Group. Provides a psychological perspective of small group processes and functions. Focuses on psychological theories of group development, group dynamics, and individual behavior and process in small groups. Students will be expected to perform in a variety of roles, such as group member, leader, observer, and analyst. Prerequisite: 307 or consent of instructor.

371-3 Problem Solving and Decision Making. Indicates how problem solving and decision making can be characterized and evaluated and how they might be modified or improved. Research and theory in related areas of psychology are reviewed with emphasis on the role of thinking, problem solving, expert judgment, and decision making in man-machine systems. Prerequisite: GEB 202.

389-1 to 9 Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. May be repeated as topics vary. Prerequisite: consent of instructor.

391-1 to 9 Individual Project. Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. A maximum of three hours of 391 or 392 may count toward the major or minor. Prerequisite: consent of instructor. Mandatory Pass/Fail.

392-1 to 9 Individual Project. Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. For use in those cases where the faculty member deems a graded course to be appropriate. A maximum of three hours of 391 or 392 may count toward the major or minor. Prerequisite: consent of instructor.

394-1 to 9 Undergraduate Practicum in the College Teaching of Psychology. Supervised practicum in the college teaching of psychology for selected senior psychology majors. (A maximum of three hours may count toward the major.) Prerequisite: senior psychology major and permission of instructor.

407-3 Theoretical Issues in Learning. An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 309 or equivalent.

409-3 History and Systems of Psychology. A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: senior status.

411-3 Principles of Training. An in-depth coverage of practical problems concerned with train-

- ing to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 309.
- 413-3 Individual Differences.** Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race, and socioeconomic status. Prerequisite: 305.
- 414-3 Biology of Behavior Disorders.** An examination of theory and research pertaining to the physiological basis of therapies for a variety of psychological problems such as affective disorders, schizophrenia, alcohol and drug abuse, organic brain dysfunction, and aging. Prerequisite: 302.
- 415-4 Psychopharmacology.** A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: 302 and GEB 202.
- 416-3 Recovery of Function Following Brain Damage.** A survey of experimental animal and human clinical research as they relate to behavioral recovery following damage in the central nervous system. Recent theories and literature are stressed. Prerequisite: 302 or consent of instructor.
- 419-3 Behavior and Heredity.** Provides an overview of the experimental and quantitative methods used in studying behavioral differences associated with genetic variables. Elementary aspects of genetics will be included in the course, which will examine several aspects of both human and nonhuman behavior. Prerequisite: 211 or consent of instructor. Zoology 214, Biology 305, or equivalent recommended.
- 421-3 Psychological Tests and Measurements.** Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude, and personality. Prerequisite: six hours of psychology.
- 431-3 Psychopathology.** Classification, description, etiology, and treatment of the disorders of personality organization and behavioral integration. Observations in a state mental hospital setting. Prerequisite: 305 or consent of instructor.
- 432-3 Psychopathology of Childhood.** An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 301, and 211 or Guidance and Educational Psychology 422.
- 440-3 Theories of Personality.** A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 305 or consent of instructor.
- 441-3 Helping Skills in Clinical and Counseling Psychology.** Provides systematic training in helping skills for students considering clinical or counseling psychology as a career. Students learn to identify and demonstrate such individual skills as encouragement, paraphrasing, and reflection of feeling, and will use them in practice situations. Students will also learn to apply various approaches to psychotherapy and counseling using hypothetical case studies. The course is complementary to 340. Prerequisite: 340 or consent of instructor.
- 445-4 Introduction to Psycholinguistics.** (See Linguistics 445.)
- 451-3 Advanced Child Psychology.** An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor.
- 461-3 Advanced Social Psychology.** Critical examination of contemporary theories and research in social psychology. Practice in application of scientific findings to real-life problems of individuals and groups. Issues treated in depth are chosen for relevance to student's personal needs and career interests. Not for psychology graduate students. Prerequisite: 307.
- 463-3 Attitudes and Persuasion.** An examination of theory and research regarding the formation of attitudes, the modification of attitudes, and the techniques for measuring attitudes. Prerequisite: 307.
- 465-3 Need Assessment Techniques for Mental Health Planning.** Surveys methodological techniques for assessing the need for mental health services including developing a resource inventory, use of census and other social indicator data, rates under treatments, community and consumer surveys, hearing and site visits. Attention is also paid to method of presenting results of need assessments to lay boards. Prerequisite: senior standing in psychology major, or graduate status, or consent of instructor.
- 489-1 to 12 Seminar: Selected Topics.** Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: consent of instructor.
- 499-6 (3, 3) Senior Honors in Psychology.** Intensive study in selective areas for students qualified for honors work in psychology. A research paper or equivalent will be required. Not for graduate credit. Prerequisite: consent of instructor.

Public Visual Communications (Graduate Only)

(SEE GRADUATE CATALOG)

Radio-Television (Department, Major, Courses)

The Department of Radio-Television prepares students for positions in broadcasting and telecommunications by combining practical and theoretical courses in broadcasting with a broad liberal arts background.

To be admitted to the Department of Radio-Television, incoming freshmen must rank in the top one-fourth of their high school graduating class and have a Standard Composite ACT Score of 19 or higher (21 or higher on the Enhanced ACT), or rank in the top one-half of their graduating class and have a Standard Composite ACT score of 22 or higher (23 or higher on the Enhanced ACT).

Transfer students seeking admission from another institution or from another program at Southern Illinois University at Carbondale must have a 2.25 grade point average or above. Transfer students with fewer than 26 semester hours must have a 2.25 grade point average or above as well as the rank and test score requirements of an entering freshman.

The core courses, Radio-Television 300m and 300p, must each be completed with a grade of C or better and the typing and English requirements described below must be met before students may advance into other radio-television courses beyond the core courses. Students who meet these requirements must also complete Radio-Television 305 and 308 with a grade of C or better and Radio-Television 393.

Each student enrolled in the radio-television program must complete by the end of the sophomore year or, if a transfer student, by the end of the first semester of enrollment at Southern Illinois University at Carbondale:

- 1. GED 101 and GED 102 with a grade of B and, if student receives less than a B in either GED 101 or GED 102, English 290 with a grade of C;
- 2. A departmentally administered typing test at a minimum speed of 30 words per minute, or attain a grade of B or better in Office Systems and Specialties 100.
- 3. A language skills examination given by either the department or college with a passing score;
- 4. Radio-Television 300m and 300p with a grade of C or better before enrolling in any other radio-television course. Students must have completed twenty-six semester hours of credit before taking Radio-Television 300m and 300p. These courses may not be repeated more than once.

Transfer students must complete a minimum of 19 hours in radio-television courses at the University to earn a degree.

Bachelor of Arts Degree, College of Communications and Fine Arts

General Education Requirements.....	46
Requirements for Major in Radio-Television	41-46
Radio-Television 300m, 300p, 305, 308, with a grade of C or better and 393 are required. Must include at least one 400-level radio-television course. Radio-Television electives to bring total in the department to 35-38	35-38
Language Requirement.....	6-8
A foreign language or computer programming must be selected to meet this requirement.	
Minor in a Related Area.....	15
All 15 hours must be in a single department beyond General Education courses. Students should check with departmental advisers for a list of recommended minors.	

Electives.....	13-18
Total	120

Courses

- 200-3 Understanding Radio and Television.** Review of responsibilities of television viewers and radio listeners, critical viewing and listening of radio and television programs. Analysis of techniques and content of programs. Lecture, discussion, critical review. Not for majors in radio-television. Credit will not count toward the major. Not open to students with credit in 300M or 300P.
- 300M-3 Radio-Television Writing Performance Production.** Introduction to the functions, theories, materials and techniques of writing, performing, and production for radio and television. Students write, perform, and produce in radio and television studio laboratories. Extra fee for books and supplies \$15. Note: Radio-Television 300M and 300P are both prerequisites for all other courses. Students must attain a grade of C in these courses before taking other courses in the department. Prerequisite: sophomore standing.
- 300P-3 History and Foundations of Radio-Television.** Basic communications theory as applied through the history, economics, government regulation of the American system of broadcasting, and in broadcasting programming and audience analysis. Prerequisite: sophomore standing.
- 305-3 Audience Research and Ratings Analysis.** The interrelationships of programs and audiences. Methods of audience and program research. Ratings analysis, station surveys. Survey of relevant research in radio-television. Prerequisite: C in 300M and 300P.
- 308-3 Radio-Television Policies, Laws, and Regulations.** Development of American radio and television policies from their constitutional base through federal law, regulatory agencies, and the judicial system. Rights and responsibilities of radio and television organizations and of the public. Required for majors. Prerequisite: C in 300M and 300P.
- 310-3 Radio-Television News Writing.** Selecting, writing, rewriting, and editing news material for presentation on radio and television information programs. Laboratory hours required. Prerequisite: C in 300M and 300P.
- 311-3 Radio News.** The basic techniques of writing, rewriting, and editing news from local and wire service sources, plus reporting and editing by means of audio tape. Students must have daily access to an audio tape recorder and are encouraged to obtain their own cassette recorder. Laboratory hours required. Prerequisite: C in 300M and 300P, 310 or consent of instructor.
- 325-3 Survey of Cable Communications.** History and projections of CATV industry growth, patterns of regulation and use. Relation of cable communication to other media, and to society. Extensive readings and discussion of literature. Prerequisite: C in 300M and P.
- 340-3 Television Criticism.** History and analysis of television genres. Analysis and evaluation of technique, content, and aesthetic effect of television messages. Extensive reading in critical literature, written assignments. Required for majors. Prerequisite: C in 300M and 300P.
- 351-3 Broadcast Programming.** Discussion and analysis of radio and television programming formats, strategies, and scheduling. Prerequisite: C in 300M and 300P, 305 or consent of instructor.
- 357-3 Broadcast and Cable Promotion.** Theory and management of campaigns promoting audience and sales growth by broadcasters, cable and pay-cable services, and program distributors; including design, implementation, and evaluation of campaigns and materials. Prerequisite: C in 300M and 300P, 305, or consent of instructor.
- 360-3 Radio-Television Performance.** The development of disciplines controlling vocal and visual mechanics and interpretative performances for announcers, newscasters, interviewers, and narrators of various radio and television situations. Laboratory hours required. Prerequisite: B or better in 300M, 310, or 383 or consent of instructor, Communication Disorders and Sciences 104, or Theatre 203.
- 363-3 Producing for Radio.** Planning and producing for the special requirements of the medium. Study of differing formats; production of short forms in laboratory exercises. Laboratory hours required. Prerequisite: 383 or consent of instructor.
- 365-3 Producing for Television.** Planning and producing for the special requirements of the medium. Research, planning, and budgeting for individual and series productions. Laboratory exercises. Final projects carry over to 369. Laboratory hours required. Prerequisite: C in 300M and 300P, 310 or 383 or concurrent enrollment.
- 369-3 Directing for Television.** Applications of communications theory and unique characteristics of the medium in directing televised productions. Laboratory hours required. Prerequisite: C in 300M and 300P; 365 with a grade of B or better; 340 or concurrent enrollment.
- 370-3 Television News.** Techniques in writing, reporting, shooting, and editing utilizing small format ENG equipment. Students purchase a minimum of two half-inch videotape cassettes. Laboratory hours required. Prerequisite: 311 or consent of instructor.
- 377-3 Radio and Television Sales and Sales Management.** A marketing approach to station and system sales. Use of ratings, RAB, TVB, and station promotion material. Includes selling methods and techniques and sales management techniques (systems approach, inventory control, pricing). Prerequisite: 305 or consent of instructor.
- 380-3 New Technologies.** An examination of the factors and forces which lead to expansion and

improvements in telecommunications technologies with particular emphasis on the "new technologies". The social issues raised or addressed by these technologies will also be analyzed to give students a broad and far-sighted view of the future directions of an expanding industry. Prerequisite: C in 300M and 300P.

383-3 Writing for Radio-Television. Experience in writing radio and television formats, and announcements — commercial, public service, and promotional. Develops critical awareness and analytical attitude toward broadcast writing, and stresses imagination and creative writing skills. Frequent written assignments in and out of class. Prerequisite: C in 300M and P.

384-3 (1, 1, 1) Radio-Television Practicum. Practical experience in broadcast operations on the campus. Instructor makes determination on student duties, based on needs of the Broadcast Service and the desires of the student. A minimum of four hours per week. Students obtain application form from academic adviser. Prerequisite: 14 hours in radio-television and consent of instructor. Mandatory Pass/Fail.

391-2 Independent Study. Area of study to be determined by student in consultation with radio-television faculty. No more than two students may work on the same project. Prerequisite: 14 hours in radio-television and consent of instructor.

393-3 Radio, Television, and Society. The interrelation of radio and television with social patterns and economic and political systems. Major theories of broadcasting. Effects on these media on society. Required for major. Prerequisite: C in 300 M and 300P, senior standing.

395-4 Internship Program. News production, performance or management sales work experience with a non-university professional organization. The student will be provided an educational experience beyond that available at the University. No possibility of retroactive credit for previous work experience. Prerequisite: junior status, at least 14 hours in radio-television, grade point average of 3.0 or better in major, consent of instructor, and approval of undergraduate curriculum committee.

430-2 News and Public Affairs Programming. Examination of history and scope of news and public affairs programming. Effects of public affairs on programs and audiences. Responsibility of radio and television stations in news and public affairs and community relations. Issues in news and public affairs including ethics. Prerequisite: senior standing.

453-2 Educational and Public Broadcasting. The history and regulatory structure of educational and public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in educational and public broadcasting considered. Prerequisite: C in 300M and 300P, 308, and senior standing.

465-3 Advanced Television Production. Instruction and practical experience in the development of programming for television, resulting in completed segments for broadcast in individual and series production. Students will utilize the facilities of the Broadcasting Service and produce programming for WSIU-TV. For undergraduate students only. Prerequisite: 365 or consent of instructor.

467-3 Radio-Television in International and Agricultural Development. An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communications in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: senior standing and C in 300M and 300P.

470-3 Television News Field Production. Advanced field reporting for television. Students will work under the supervision of the instructor to develop, investigate, and report news stories for television. This process will also study the development and production of the mini-documentary. Class will utilize 3/4-inch video recorders, cameras, and editing systems. For undergraduate students only. Prerequisite: 370 or consent of instructor.

473-4 Radio-Television Management Principles. Management history, management styles and systems, sales management (marketing and developing sales packages), maximizing inventory, sales training, gamesmanship, leadership and financial skills; policies, procedures and objectives of broadcast management. Students will be required to prepare: audience analysis for sales/programming; computer generated inventory reports; and marketing strategies. Not for graduate credit. Prerequisite: 351 and 377 or consent of instructor.

481-3 Non-Broadcast Television. An examination of the special requirements of business, industrial, and medical uses of television. Management, budgeting, planning, and evaluating productions. Exploration of cable television, satellites and other technologies used in non-broadcast situations. Prerequisite: senior standing and 325, 365, or consent of instructor.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama, and children's programming. Prerequisite: senior standing and 340, 310 or 383, and consent of instructor.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: C grade in 300M, 300P, and consent of instructor.

491-3 Independent Study. Area of study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

Radiologic Technology (Program, Major)

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occurring in the human body. The course of study involves mastering the ability to control radiation production and the ability to position the body properly in order to obtain radiographs of the required anatomical structure.

The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the program provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists.

To be accepted into the radiologic technology degree program the student must have completed the requirements for the allied health careers specialties program. These advanced radiologic technology courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in radiologic technology.

The courses can be completed in two summer sessions and two regular semesters. The summer sessions and the regular semester sessions will utilize both classroom and clinical education learning experiences.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Radiologic Technology

Completion of Allied Health Careers Specialties degree	62
Radiologic Technology Advanced Courses (Allied Health Careers Specialties designated)	31
Total	93

Courses

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Recreation (Department, Major, Courses)

The Department of Recreation prepares the student for positions in the management of leisure services. The department builds its curriculum on a broad General Education foundation, offers professional courses within the Department of Recreation, and draws from many related departments of the University for competencies and skills in the preparation of professionals for the recreation field. The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering supervised field experience, and internships in various recreational settings throughout Illinois and the nation.

Students admitted to the Department of Recreation must meet the College of Education requirements and follow their procedures for acceptance. In order to be admitted to practicum courses, students must have a grade point average of 2.25 and the consent of the instructor. Students who do not meet the College of Education requirements must be screened and approved by the department undergraduate faculty.

Students majoring in recreation are required to complete 46 hours of General Education, 35 hours of professional core courses and 39 hours of professional courses in at least one area of specialization. Electives for their chosen area of

specialization must have adviser approval. A total of 74 hours beyond General Education is required. A grade of C or better is required in all Recreation prefix required courses.

The Department of Recreation offers courses leading to specialization in therapeutic recreation and program services. A careful selection of recommended electives can be used to build competencies in recreation program services administration, outdoor recreation/education, and commercial/industrial recreation.

Students majoring in recreation should start early in their college careers developing skills and competencies in music, dance, arts and crafts, literature, sports and games, nature, drama, and other leisure and cultural areas. The American Red Cross first aid certificate and workshop certificates in recreation sponsored by the state and national recreation and park associations are encouraged for each student. Students focusing on a therapeutic orientation should attempt to acquire either academic or practical experience related to physiological, psychological and sociological functioning and the concomitant effect of disability. As soon as possible recreation majors will decide on one of the two specializations and elect courses for their areas of specialization.

Bachelor of Science Degree, College of Education

<i>General Education Requirements</i>	46
<i>Requirements for Major in Recreation</i>	75
English 290	3
Recreation 300, 301, 302, 303, 305, 367, 380-4, 490-12.	32
One of the specializations listed below	39
<i>Total</i>	121

PROGRAM SERVICES SPECIALIZATION

Recreation 365, 375, 425, 445, 465	15
Accounting 210 or 220	3
Vocational Education Studies 306 or Curriculum and Instruction 483a	3
Six hours selected from Psychology 301, 303, 304, 305, 307, 320, 323, 333	6
Electives	12
<i>Total</i>	39

THERAPEUTIC RECREATION SPECIALIZATION

Recreation 460, 461, 462, 304	12
Six hours selected from Recreation 440a, 440b, 440c, 440d, 440e.	6
Psychology 305 and 431 or 432	6
Physiology 209 and 300 or 301	7-8
Electives (in accordance with certification requirements)	7-8
<i>Total</i>	39

Courses

300-3 Introduction to Leisure Services. An introduction to the professional field of recreation. A study of the historical, philosophical, sociological, psychological, and economic development of leisure and recreation. Insight into the fundamental concepts, values, and functions of leisure and recreation as an individual emotional experience as well as a necessary part of community life.

301-3 Leadership in Recreation. An examination of leadership theories and styles appropriate for activity leaders in recreation. Emphasis will be placed on leadership process and methodology as applicable to leisure service settings.

302-3 Program Design and Group Dynamics. A study of essential elements and basic principles involved with the organization and administration of various types of recreation programs and services. Prerequisite: 300 or concurrent enrollment.

303-3 Recreation For Special Groups. Problems and characteristics of special groups in society such as teenagers, aged, emotionally disturbed, mentally retarded, physically handicapped, prisoners, and delinquents. Emphasis on leadership processes, methodology, and program materials. Prerequisite: 300 or consent of department.

304-3 Principles and Practices of Therapeutic Recreation. Study of the existing practices and principles utilized in therapeutic recreation; professionalism; legislation; team approaches; activity analysis; supervision functions; community resources; special recreation programs. Prerequisite: 300, 302, 303.

305-1 Pre-Practicum. An introduction to the responsibilities and opportunities of field experience within the field of recreation. The course includes field experience identification and selection, resume preparation, letters of application, interview procedures, professional skills, and development.

330-3 Outdoor Education. Philosophy and principles underlying the programs and methods in modern outdoor education and school camp programs with emphasis on curriculum enrichment through our natural resources. Expenses for required field trip not to exceed \$20. Prerequisite: 300, 302, 303 or consent of department.

331-3 Outdoor Living Skills. Development of techniques for teaching outdoor living skills necessary in a wide variety of recreation programs. The student will be presented with a sample of specific skills including cooking, use of hand tools, fire safety, and others. Methods for teaching various age groups such skills will be discussed. A laboratory charge of approximately \$25 will be required. Prerequisite: 300, 302, 303 or consent of department.

335-3 Expedition Leadership. The skills and techniques needed to plan, organize and conduct expeditions such as overnight hikes, canoe trips, backpacking, field trips, and other types of expeditions. Expenses for required field trips not to exceed \$200. Prerequisite: consent of instructor.

365-3 Administration of Leisure Services. Administrative procedures in park and recreation departments — organization, finance, personnel, facilities, program, public relations, and other areas of administration. Prerequisite: 302.

366-3 Workshop in Administrative Issues in Recreation. Designed to examine in a workshop current administrative issues in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.

367-3 Research and Evaluation in Recreation. An introduction to methodological approaches to the scientific study of phenomena inherent to recreation and leisure. The course includes basic research and evaluation designs, research and evaluation report writing, analysis of current leisure research, and use of computers in leisure research and evaluation. Prerequisite: 300, 302, 303.

370-3 Camp Management. Principles and procedures of selection and supervision of personnel, program planning, food preparation, health and safety, camp maintenance, evaluation, camp counseling, and other responsibilities of camp administration. Prerequisite: 300, 302, 303 or consent of department.

375-3 Commercial Recreation and Tourism. Problems of commercial recreation and tourism will be addressed in this class. Topics include: free enterprise, marketing, transportation industry, attractions, food and lodging industry and government's role in tourism.

377-3 Overview of Campus Recreation. Focuses on the administration, organization, planning, implementation, and evaluation of programs and facilities in the campus recreation field. Specific topics addressed include historical and philosophical aspects, administrative practices, competitive and non-competitive programming, future trends and issues, budgeting, public relations, professional associations, and examination of individual characteristics of a variety of campus recreation programs conducted nationwide.

380-1 to 4 Field Work in Recreation. Supervised leadership experiences in a public or private recreation setting. It is recommended that a student sign up for two hours per semester. Graduates must complete field experience in at least two areas of specialization. A maximum of six hours of credit may be earned. Prerequisite: 300, 302, 303 and 305 or consent of department.

385-1 to 2 Readings in Recreation. Selected readings in professional publications for the purpose of becoming acquainted with the types of research current in community, park, special populations, outdoor recreation, outdoor education, and related fields. For recreation majors only. Prerequisite: 15 hours in recreation.

386-1 to 2 Problems in Recreation. Designed to enable students to effectively request funds, request personnel, initiate new programs, or support recreation leisure services. Prerequisite: 15 hours in recreation.

395-3 Site Maintenance and Operation. All phases and principles of development, maintenance, and construction of areas and facilities used in a recreation setting. Stress is put on selection and supervision of maintenance personnel. There is a maximum cost of \$5 for course materials in lieu of textbook. Prerequisite: 300, 302, 303 or consent of department.

401-3 Fundamentals of Environmental Education. (Same as Agriculture 401.)

423-3 Environmental Interpretation. (Same as Agriculture and Forestry 423.)

425-3 Planning and Design of Recreational Facilities. An examination of major design considerations for a variety of recreation facilities such as recreation centers, recreation sport complexes, parks, visitors centers, and natatoriums. Special attention will be given to long range facility planning. Prerequisite: senior or graduate standing.

440-15 (3, 3, 3, 3, 3) Recreation Activities for Special Populations. Students will be made aware of problems and characteristics of special population groups. Emphasis is upon the role of therapeutic recreation with these groups in institutional and community settings: (a) Recreation for the mentally ill and emotionally disturbed. (b) Recreation for the mentally retarded. (c) Recreation for the aged. (d) Recreation for the socially deviate. (e) Recreation for the physically disabled. Prerequisite: 300, 302, 303 or consent of department.

445-3 Outdoor Recreation Management. Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs, and environment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303 or consent of department.

460-3 Therapeutic Recreation Management. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons, and other institutions. Emphasis on programs for special populations in the community setting. Prerequisite: 300, 302, 303 or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy and nature of systems, system analysis, program implementation and program evaluation. Prerequisites: 300, 302, 303, one section of 440, or consent of department.

462-3 Facilitation Techniques in Therapeutic Recreation. This course is designed to provide an understanding of the basic processes and techniques of therapeutic recreation and to develop technical competencies necessary for the provision of quality therapeutic recreation services. Emphasis is on the skillful application of various processes and techniques to facilitate therapeutic changes in the client and the client's environment, thus enabling the development of an appropriate leisure lifestyle.

465-3 Advanced Administrative Techniques. Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.

475-3 to 39 (3 credits per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) commercial, (d) outdoor recreation, (e) mentally disturbed, (f) emotionally disturbed, (g) campus recreation services; (h) tourism, (i) aging, (j) prisons and detention centers, (k) physically handicapped, (l) budget and finance, (n) maintenance of areas and facilities, (o) personnel, and (p) technological advances.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor.

490-12 Internship in Recreation. Supervised practicum experience in a professional recreation setting. Emphasis on administrative, supervisory, teaching, and program leadership in the student's area of specialization. For undergraduate credit only. Must be taken during student's senior year. Prerequisite: completion of all requirements for major in recreation or consent of course coordinator; 2.25 grade point average.

Rehabilitation (Institute, Major [Graduate Only], Courses)

Courses in this department may require the purchase of supplemental materials not to exceed \$10 per course. Field trips are required for certain courses.

Courses

400-2 to 3 Introduction to Rehabilitation. An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: students can enroll in the didactic portion for two credits, or three credits if they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.

401-3 Rehabilitation for Non-Majors. An introduction to the process and practice of rehabilitation for students not majoring in this field. An overview of counseling, evaluation, physical restoration, adjustment services, job placement, and rehabilitation administration will be presented. Also a survey of client characteristics will be provided. Clients with sensory, physical, developmental, and psychiatric disabilities will be discussed. Career opportunities in rehabilitation will be examined.

402-1 to 3 Human Development and Behavior. Examines theories and systems of human development, personal behavior patterns and learning principles related conceptually to rehabilitation processes and practices. Prerequisite: consent of instructor.

403-3 Independent Living Rehabilitation. Survey of principles and methods of independent living for the handicapped with attention to client assessment for rehabilitation, effective techniques for specific handicapped groups, and the variety of types and organization of independent living programs.

- 06-3 Introduction to Behavior Analysis and Therapy.** A survey of the principles and procedures in behavior analysis and therapy and the scope of its application to human needs and problems.
- 19-1 to 3 Cross-Cultural Rehabilitation.** (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.
- 21-3 Vocational Development and Placement.** Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: consent of instructor.
- 25-1 to 6 Developing Employment Opportunities.** Designed to train rehabilitation personnel in the attitudes, methods, and skills pertinent to placement of handicapped persons in competitive and other occupations. Prerequisite: special standing and consent of instructor.
- 31-3 Assessment of Procedures in Rehabilitation.** Review of fundamental bases of measurement, criteria for evaluating tests, practice with representative instruments in major categories, and the use of tests and work samples in assessing the handicapped's functioning abilities and work potential. Prerequisite: consent of instructor.
- 33-3 to 4 Vocational Evaluation and Adjustment Services.** Introduction to the philosophies of evaluation and adjustment services in rehabilitation settings with emphasis on the rationale for use of psychometric testing, functional behavioral analysis, work sampling, situational assessment, and on the job evaluation in relation to the development of individualized adjustment service programs.
- 445-3 to 12 Rehabilitation Services with Special Populations.** Procedures and programs pertinent to the care and treatment of special populations. Three semester credits will ordinarily be granted for each unit. Prerequisite: consent of instructor.
- (a)-9 (3, 3, 3) **Alcohol and Drug Abuse.**
 - (b)-9 (3, 3, 3) **Emotionally Disturbed.**
 - (c)-9 (3, 3, 3) **Juvenile Offender.**
 - (d)-9 (3, 3, 3) **Mental Retardation.**
 - (e)-9 (3, 3, 3) **Physically Disabled.**
 - (f)-9 (3, 3, 3) **Public Offender.**
 - (g)-9 (3, 3, 3) **Sensory Disabled.**
 - (h)-9 (3, 3, 3) **Developmental Disabilities.**
- 446-3 Psychosocial Aspects of Aging.** Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course. Prerequisite: consent of instructor.
- 447-3 Biomedical Aspect of Aging.** The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.
- 451-3 to 4 General Rehabilitation Counseling.** A didactic and experiential analysis of the underlying premises and procedures of individual and group counseling in rehabilitation settings. Prerequisite: consent of instructor.
- 452-3 Behavior Change Applications.** An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools, and communities are surveyed. Prerequisite: 406 or consent of instructor.
- 453-1 to 4 Personal and Family Life Styling.** The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.
- 461-3 Introduction to Alcoholism and Drug Abuse.** Orientation and introduction to a variety of topics related to alcohol and drug abuse; surveys history, theories of cause and development, consequences of abuse, classes and types of drugs, legislation, and other current issues relating to substance abuse and addiction.
- 468-3 Sexuality and Disability.** Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.
- 471-3 Rehabilitation and Treatment of the Alcohol and Drug Abusers.** A comprehensive examination of substance abuse treatment and rehabilitation; focus on various treatment ap-

proaches, treatment settings, and types of counseling to include an overview of individual, group, and family techniques; the rehabilitation counselor's role is addressed and necessary skills in treating drug and alcohol abusers. Prerequisite: 461 or consent of instructor.

479-3 Technical Writing in Rehabilitation. Fundamentals of writing skills for rehabilitation specialists, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases and other publicity materials. Prerequisite: consent of instructor.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experience in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for a graduate degree, only one or the other can satisfy requirements toward a master's degree. Prerequisite: consent of department.

Religious Studies (Department, Major, Courses)

Religious studies examines religious attitudes and behaviors from their earliest beginnings through their dominant forms, east and west, to their modern developments and alternatives, pointing continually to the question, How is religion possible today? Study of this kind makes an interdisciplinary contribution to a liberal education in the humanities and social sciences and also provides a useful base for graduate study in religion, in the arts, or in any of the helping professions such as the ministry, medicine, psychiatry, law, social work, and public service.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i>	(4) + 8-14
<i>Requirements for Major in Religious Studies</i>	28
Minimum hours distributed as follows:	
Area A: Religious Studies 320a, b, 332, 333, 334, 336, 337, 410f.	9 ¹
Area B: Religious Studies 201, 301, 302, 340, 341, 362, Sociology	
351	9 ¹
Free electives from Areas A or B	10 ¹
<i>Electives</i>	32-38
<i>Total</i>	120

¹Religious Studies 396 and 496 may be designed so as to apply toward fulfilling requirements of either Area A or Area B. By special permission of the department, students may earn up to six hours major credit with courses taken in other departments, such credit to apply to Area A or Area B, or the free elective group as the department shall determine.

Minor

Students may take a minor in religious studies by completing at least 13 hours of courses in the department, excluding GEC 215 and Religious Studies 496.

Courses

201-3 Issues in Religion. Introduction to religion and its study, illustrated by cross-cultural examples.

301-3 Philosophy of Religion. (See Philosophy 301.)

302-3 Religion, Reform, Revolution. Changing patterns in religion since the Second World War.

303-3 Women and Religion. (Same as Women's Studies 303) How has the rhetoric of sexuality and traditional western God-talk shaped our religious lives as women and men? Have we alternatives, and do we want them? Readings by authors such as Rosemary Ruether, Carol Christ, and Mary Daly will be augmented by primary source material from church theologians and contemporary fiction.

320-6 (3, 3) Biblical Studies. A survey of Jewish and Christian biblical writings: how they came to be written, for what purposes, and with what effects. (a) The Old Testament. (b) The New Testament.

332-3 Jewish Ideas and Culture. Selected Jewish rites, beliefs, and customs and their cultural roots and consequences.

33-4 Myth and Ritual in Archaic Religion. (Same as Black American Studies 385.) The structure of the sacred among selected primitive peoples in Africa, Asia, and the Americas. Primitivism is a mode of being in contemporary culture.

34-3 Religions and Cultures of Asia. An introduction to the major religions of India, China, and Japan.

35-4 The Kingdom of God in America. Uses primary source materials from American theologians, religious leaders, and novelists to investigate the cultural and religious dominance of the Protestant vision of the Kingdom in America. Special attention given to contemporary issues and movements.

36-4 The Christian Heritage. A thematic and historical survey of European Christian thought using selected writers such as St. Paul, St. Augustine, Dante, C.S. Lewis, Dietrich Bonhoeffer.

37-3 Islamic Religion and Culture. Religious and cultural developments in the Islamic world from Mohammed to current problems and modernization.

40-3 The Self and the Sacred. Cross-cultural and contemporary images of the self as they relate to self-understanding, the environment, society, and the cosmos.

41-4 Mysticism and Human Transformation. Comparative studies in selected "classical" mystics, and their meaning for contemporary world views.

51-3 Sociology of Religion. (See Sociology 351.)

62-3 Literature and the Religious Imagination. Investigates the role of storytelling as it has shaped Western religious experience. Explores the questions of the religious imagination as revealed in the works of modern writers and playwrights.

96-1 to 6 (1 to 3 per topic). Comparative Studies in Religion. Special topics in religion, to be announced in advance. Both students and faculty may suggest ideas. May be repeated as the topic varies up to a maximum of 6 hours. Prerequisite: departmental approval.

410F-3 Comparative Religion. (See Anthropology 410F.)

496-1 to 6 Honors Readings in Religion. Topics selected by student and instructor which ordinarily are not covered in depth in regular course offerings. Not available for graduate credit. Prerequisite: consent of department.

Respiratory Therapy Technology (Program, Major)

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Respiratory therapy is an allied health specialty concerned with the treatment, diagnostic testing, management, control, and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilatory control and breathing exercises, cardiopulmonary resuscitation, maintenance on natural, artificial, and mechanical airways, and diagnostic cardiac and pulmonary function studies.

The respiratory therapy technology curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Care (NBRC) and the Pulmonary Specialty Exam (CPFT).

To be accepted into the respiratory therapy technology program, the student must be admitted to both the University and the allied health careers specialties program. A firm background in science and communication ability is mandatory to satisfactorily complete the program. The professional respiratory therapy courses consist of both formal classroom and clinical experiences. The clinical experience will be in a variety of locations to provide maximum opportunity for procedures. These sites are chosen in consultation with the student and the clinical coordinator of the program. Upon satisfactory completion of the curriculum, the student is awarded two associate degrees. One with a major in allied health careers specialties and one with a major in respiratory therapy technology. It is highly advisable that the student complete all prerequisites before starting the professional sequence in the second year. The student should have all program application materials completed as soon as possible, since enrollment is limited.

The professional courses can be completed in one and one-half calendar years (three semesters and one summer session). While the regular semesters will uti-

lize both classroom and clinical education experiences, the final fall semester is a full-time clinical internship at a designated full-service hospital.

The program at present cannot produce more than a fraction of the needed therapists for the region, so placement approaches 100%. Articulation with other programs can offer the ability to apply program course requirements fully toward baccalaureate credit.

Associate in Applied Science Degree, College of Technical Careers

Requirements for Major in Respiratory Therapy Technology

Completion of Allied Health Careers Specialties degree program.	62
Respiratory Therapy Advanced Courses (Allied Health Careers Specialties designated).	22
Total	84

Courses

(SEE ALLIED HEALTH CAREERS SPECIALTIES)

Science (College, Courses)

Courses

257-2 to 8 Concurrent Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for ongoing work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program before registration. Mandatory Pass/Fail.

258-2 to 8 Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for past work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program. No grade for past work experience.

259-2 to 24 Vocational Education Credit. Formal, post-secondary, educational credit earned in a military service or other vocational, technical, or occupational program and directly related to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the dean and the executive officer of the student's major program.

388-0 to 36 Study Abroad. Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. Zero to eighteen credits per semester, zero to nine for summer session. Prerequisite: one year of residence at Southern Illinois University at Carbondale, good academic standing, and prior approval of the course of study by the major department and the College of Science.

Social Studies (Major)

(SEE CURRICULUM AND INSTRUCTION)

Social Work (School, Major, Courses)

The social work program offers a professional social work curriculum designed to prepare students for beginning social work practice. The program focuses on direct services and leads to a Bachelor of Science degree with a major in social work.

Social work offers stimulating and challenging career opportunities that are expected to increase into the next century; this reflects public and private response

to the social service needs of a growing and aging population and to stresses caused by social change. Social workers hold jobs in state or local government agencies, children and family services, mental health, medical care, housing, education and corrections. Those in the private sector work primarily for voluntary nonprofit agencies, community and religious organizations, hospitals, nursing homes and home health agencies. The social work profession is committed to maximizing opportunities for minority and disadvantaged populations and this commitment is reflected throughout the social work program.

The curriculum provides an interdisciplinary approach (grounded in the liberal arts) to understanding the relationship of people with their social and community environments. The social work practice courses provide basic social work skills for prevention and treatment of a variety of human problems. Course content integrates human behavior with the social environment and focuses on ethnic and minority issues, service delivery issues in rural areas, and the effects of discrimination and poverty on populations-at-risk. Experimental learning (simulation's, role playing, volunteer experience) is an integral part of the curriculum.

A unique aspect of the social work program is an intensive field practicum. The practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the "real world" settings of southern Illinois social service agencies. A concurrent weekly seminar supports this integration of theory and practice.

The field practicum may be taken over two semesters of the senior year, half-time, or in one semester for a full 40 hour week. Block field placements do not begin during the summer. Approved practicum sites include children, youth, and family service agencies, county and state mental health agencies, gerontological service programs, medical facilities, and community planning and development agencies.

The undergraduate social work program is accredited by the Council on Social Work Education, the national accrediting agency. The degree may be recognized for advanced standing by graduate schools of social work offering advanced standing programs.

For requirements for the graduate degree in social work, see the Graduate Catalog.

Accreditation. The bachelor's degree in social work is fully accredited by the Council on Social Work Education, the nationally recognized accrediting agency for social work. Graduation from an accredited program gives students an advantage both in the job market and in pursuit of graduate education. Many graduate programs in social work will give advanced standing to students who have completed an accredited bachelor's degree in social work.

Admission. Students must be in good standing in order to be considered for acceptance into the program.

Student Advisement. When the student is accepted into the undergraduate Social work program they are assigned a faculty adviser who is responsible for professional academic advisement. Each student is encouraged to meet with their adviser on a regular basis.

Requirements for the Degree. The program leads to the Bachelor of Science degree with a major in social work. In addition to 46 semester hours of general education requirements, majors must also complete a minimum of 55 hours of undergraduate social work courses. Students are also required to take 19 semester hours of general electives for a total of 120 semester hours.

Social work majors must maintain a minimum overall grade point average of 2.0 (on a 4.0 scale) and a 2.5 (on a 4.0 scale) in social work courses.

Bachelor of Science Degree

<i>General Education Requirements</i>	46
Must include GEA 115; GEB 108, 114, 202 and 211	
<i>Requirements for Major in Social Work</i>	55
Foundations of Social Work: Social Work 375, 400a, 400b, 411, 421.....	15
Social Work Practice: Social Work 383, 401, 402, 403, 441, 442, 443, 444.....	29
Social Work Policy, Practice, and Issues: A total of 3 hours selected from Social Work 450, 461, 463, 466 or other social work electives.....	3
Social Work or Black American Studies 391	2
At least one 300 or 400-level course selected from: anthropology, economics, history, political science, psychology, sociology	3
An introduction to statistics course	3
<i>Electives</i>	19
<i>Total</i>	120

Courses

289-3 Field Service Seminar. This seminar is to be taken concurrently with 295 or Community Development 295. Prerequisite: consent of instructor.

295-1 to 6 Field Service Practicum in Southern Illinois. (Same as Community Development 295.) This course is designed for freshmen and sophomores who are volunteering service to community, social service, or health agencies in southern Illinois. Credit based upon time spent in direct service. Approval of agency required for registration. Mandatory Pass/Fail.

375-3 Social Welfare as a Social Institution. Explores the interdependence of social, cultural, political, and economic factors in the history, theory, and practice of social welfare, with special reference to development of the social work profession in response to welfare problems. This class may require field activity.

383-4 Interviewing and Interpersonal Helping Skills. This is an introductory course in interpersonal skills in the social services. Interviewing, history taking, and goal setting are emphasized.

391-2 Social Services and Minority Groups. (Same as Black American Studies 391.) Exploration of the needs, experiences, and attitudes of minority groups pertaining to social welfare services. Implications for policy and programs in such areas of service as physical and mental health, child welfare, family planning, income maintenance, recreation, education, training, and employment.

396-1 to 3 Readings in Social Work. Varying topics not ordinarily covered in depth in regular courses and of specific interest to advanced students. Prerequisite: consent of instructor.

400A-3 Human Behavior and the Social Environment. A social systems approach to the study of typical human development and behavior. Examination of environmental forces impinging on the individual and implications for social work practice. Not for graduate credit for social work majors.

400B-3 Human Behavior and the Social Environment. A continuation of 400a. A social systems approach to the study of diverse/dysfunctional human development and behavior. Not for graduate credit for social work majors. Prerequisite: 400a.

401-4 Social Work Practice: Individuals and Families. An examination of problem solving interventions and environmental modifications skills for use with individuals and families. Prerequisite: 375, 383, 400a, and 400b or concurrent enrollment.

402-3 Social Work Practice: Small Groups. Examines social work group process with clinical and non-clinical groups. Leadership, roles, goal setting, and interventive strategies are addressed. Not for graduate credit. Prerequisite: 375, 383, 400a, and 400b or concurrent enrollment.

403-3 Social Work Practice: Community Organization. An examination of basic approaches to community organization used by change agents and human service workers. Special emphasis is placed on sensitizing students to consumer participation issues. Prerequisite: 375, 383, 400a, 400b, 401, 402.

411-3 Methods of Social Research. Examines the principles, concepts and methods of scientific investigation in terms of its application to social work research and practice. Not for graduate credit. Prerequisite: Educational Psychology 402 or similar introduction to statistics course plus concurrent enrollment in either 401, 402, or 403.

421-3 Social Welfare Policy. This course provides an in depth examination of social welfare structure, functions, policy, and programs, as well as strategies for shaping and changing policy. Prerequisite: 375.

441-6 Social Work in Selected Agencies. At least 20 hours per week of supervised experience in an approved social work agency with concurrent weekly seminar. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 383, 391, 400a, 400b, 401, 402, 411; and a 2.5 grade point average in departmental prerequisites. Must be taken concurrently with 443. Mandatory Pass/Fail.

442-6 Advanced Field Practicum. Supervised field work experience in an approved social service agency with concurrent weekly seminar. At least 20 hours per week. Not for graduate credit. Field work practicums begin only in fall and spring semester. Prerequisite: senior standing, 375, 383, 391, 400a, 400b, 401, 402, 403, 411, 421, and 441, 443 if not taken concurrently in a block placement and a 2.5 grade point average in departmental prerequisites. Must be taken concurrently with 444. Mandatory Pass/Fail.

443-1.5 Field Practicum Seminar. The seminar assists the student who is in the field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social welfare theory. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experience: practice issues related to social work principles, ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 441. Mandatory Pass/Fail.

444-1.5 Advanced Field Practicum Seminar. The seminar assists the students who is in field work to systematically conceptualize and integrate the field experience with the generic social work practice model and micro and macro social work practice. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences: practice issues related to social work principles, ethics, and professionalism; and intervention strategies. Not for graduate credit. Must be taken concurrently with 442. Mandatory Pass/Fail.

450-1 to 6 (1 per topic) Seminar in Special Issues for Social Work. (a) Practice. (b) Policy and planning. (c) Public welfare services. Topics will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours. Prerequisite: junior standing and consent of instructor.

461-3 Child and Family Services. Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Not for graduate credit. Prerequisite: consent of instructor.

463-2 Social Work with the Aged. Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged. Prerequisite: consent of instructor.

466-3 Public Policies and Programs for the Aged. An introduction to public policy, program and planning for the aged. A framework is utilized for analyzing policy issues, programs and research in such areas as income maintenance, long term care, transportation, leisure time, housing, and social services in order to aid present and future practitioners who work with the aged. Prerequisite: consent of instructor.

489-3 Field Service Seminar. (Same as Community Development 489.) This seminar is to be taken concurrently with 495 or Community Development 495. Prerequisite: consent of instructor.

495-1 to 6 Advanced Field Service Practicum in Southern Illinois. (Same as Community Development 495.) This course is directed at upperclassmen and graduate students volunteering service to community, social service, or health agencies in southern Illinois. Credit based on time spent in direct service. Approval of agency required for registration. Mandatory Pass/Fail.

496-1 to 6 Independent Research in Social Work. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

Sociology (Department, Major, Courses)

Sociology is the science of society. It explains how human groups, institutions, and social movements shape our lives. Sociology develops students' insights into theoretical and practical aspects of life. Sociology students study such topics as social thought, sex and gender roles, marriage and the family, social problems, criminology, large-scale business and government organizations, international development, and social change.

Training in sociology is basic both to creative living and to such practical tasks as the development and effective working of businesses, families, community service agencies, political movements and parties, churches, social clubs, government, industry, and schools.

Those with degrees in sociology find meaningful and rewarding employment as consultants to business and government, social change agents (e.g., community organizers), politicians, educators, and diplomats. Like other liberal arts students, sociology majors also enter the business world, particularly in the sales or personnel divisions of major corporations.

An undergraduate major in sociology is excellent preparation for those anticipating graduate study in law, social welfare, business administration, journalism, and many of the technical and scientific fields. In addition, many students have enjoyed the benefits of double majors or major-minor combinations between sociology and one of these related fields. Sociology and paralegal studies for legal assistants is an example of double majors involving two programs that are both in the College of Liberal Arts, while sociology and journalism are double majors involving programs in the College of Liberal Arts and the College of Communications and Fine Arts.

The Department of Sociology offers the two following alternative plans of study for completion of its major.

General Sociology Plan. This plan is for students seeking a broad academic background in sociology. It usually is chosen either by those who want a general liberal arts education in the social sciences or those anticipating graduate study in one of the social sciences.

Applied Sociology Plan. This plan combines general study in sociology in individually planned programs built around applied courses, including field work/internship experience. The applied sociology plan is primarily for those who seek careers in governmental, business, or community service occupations for which graduate school training either is unnecessary or taken as an option somewhat later in one's career. Both the general and applied plans provide maximum flexibility in course selection by students, while still ensuring that all majors receive training in the fundamentals of the field. Such flexibility enables students to tailor either their general or applied plan to specific career goals.

Academic Advisement. A student planning to major or minor in sociology should consult the department's director of undergraduate studies as early as possible in order to plan an integrated program. After the petition to major in sociology has been approved, the student will be expected to visit the director each semester until all major requirements have been completed. A record of progress for each student will be on file in the department.

To graduate with a major in sociology the student must meet all the General Education requirements of the University and the requirements of the College of Liberal Arts. The major requires thirty-two hours of course work. Ten hours are in sociology core requirements: Sociology 301, 308 and 312. An additional four hours of senior year experience also is required: Sociology 497 or 498. The remaining eighteen hours for the major must include at least eight hours at the 400 level and may be elected from regularly scheduled departmental courses. These requirements are summarized below.

Transfer Students. Credits for some sociology courses taken at community colleges are transferable. Students should have their sociology credits evaluated by the department's director of undergraduate studies at the earliest opportunity. At least 20 hours of sociology credit must be earned at Southern Illinois University at Carbondale. The eight hours of 400-level courses must be earned at a senior level institution and Sociology 497 or 498 must be taken at Southern Illinois University at Carbondale.

Bachelor of Arts Degree, College of Liberal Arts

<i>General Education Requirements</i>	46
<i>College of Liberal Arts Academic Requirements (See Chapter 3.)</i> (4) + 8-14	
<i>Requirements for Major in Sociology</i>	32
1) Sociology Core Requirements: Sociology 301-4, 308-3 and 312-3	
2) Senior Year Work: Sociology 497-4 (General Sociology Plan) or Sociology 498-4 (Applied Sociology Plan)	
3) At least eight hours must be earned in sociology 400-level courses	
<i>Electives</i>	25-31
<i>Total</i>	120

Minor

A minor in sociology consists of a minimum of 16 hours of which four must be Sociology 301. The completion of these requirements satisfies the requirements for a minor in sociology for a teaching certificate in the state of Illinois.

Honors Program

The department offers an honors program for academically outstanding sociology majors. Qualifications for acceptance into this program are: (1) an overall grade point average of at least 3.00; and (2) completion of 8 hours in sociology courses with a grade point average of at least 3.25 in all sociology courses taken at Southern Illinois University at Carbondale, and the completion of no fewer than six, nor more than fourteen, semester hours in research or independent study which are counted toward the major. Successful completion of the department's honors program is noted on the academic record at the time the degree is recorded and on the diploma, i.e., Departmental Honors in Sociology. For details, qualified students interested in this program should consult the department's director of undergraduate studies.

Courses

- 101-2 The New Student in the University.** Investigates the purposes of higher education, increases knowledge and utilization of the university and the learning process. Only for first semester students at this university. Special sections for junior college transfer students and others. Does not apply to hours in sociology major.
- 223-3 Women and Men in Contemporary Society.** (Same as Women's Studies 221.) Examines theories of women's and men's roles in society. Surveys contemporary gender inequalities in the U.S. and developing countries. Special attention given to employment, race, sexual assault, feminist movements, alternative family/lifestyles and childrearing.
- 301-4 Principles of Sociological Analysis.** This course familiarizes students with major domains of sociological analysis and basic methods of sociological inquiry. Emphasis on conceptual structure and diverse theoretical perspectives in contemporary sociology. Required of majors and minors in sociology. Recommended for students with special interest in social science.
- 302-3 Contemporary Social Problems.** Review of the basic sociological perspectives used in the study of social problems; discussion and analyses of selected contemporary social problems; assessment of alternative courses of action for the solution of problems.
- 303-3 Sociology of Deviant Behavior.** An overview of sociological theories and research in the study of social deviance. Examines such deviant behaviors as mental illness, sexual deviation, crime, prostitution, drug abuse, eating disorders, alcoholism, and suicide.
- 308-3 Statistics for Social Science.** Methods and application of statistics in the social sciences. Measures to describe distribution, measures of relationship, statistical inference.
- 312-3 Elements of Sociological Research.** The student is introduced to a variety of research methods in the social sciences including use of the library, techniques of observation, and elementary steps in quantitative measurements and analysis.
- 316-3 Political Socialization.** (See Political Science 316.)
- 321-3 Society and the Individual.** Examines the relative influence of individual characteris-

tics, face-to-face interactions, and larger social structures in shaping human behavior. Emphasis is on socialization through the life cycle and in various sectors of society (family, schools, work settings.) Explores related topics of attitude formation and change, social influence, the self and self esteem, groups processes, and social power.

330-3 Sociology of Business and Industry. A sociological examination of the development of the modern corporation in its social, economic, and political environments. Consideration will be given to various theoretical approaches to the firm. Sociological analysis will be undertaken in selected areas such as labor management relations, women in the corporation, and the corporation and the community.

335-3 Urban Sociology. Development of cities and urban social life; present day ecology of cities: suburbs, ghettos, blight; strategies of urban renewal; urban life styles; violence and acute urban problems; urban housing needs; designing safe neighborhoods; urbanization in Europe and developing countries.

340-3 Family. The family in historic and contemporary society; evolution of the modern family; changes in family functions, structure, roles; and an examination of variation and change in family systems.

351-3 Sociology of Religion. (Same as Religious Studies 351.) The origin and function of religious ideas and institutions in society, their relationship to social change and stability.

371-3 Population Problems. Characteristics and problems of population growth, composition, distribution; mortality, birth control and fertility, international and internal migration, and government policies.

372-3 Criminology. The nature of crime; criminal statistics; causal factors and theories of criminality; types of criminals.

385-3 Energy and Society. Development of human social organizations accompanied by increasing control of power, technology, and energy resources. Review of changes in social institutions, social processes, and energy use. Aspects of energy development, conservation, and control.

396-1 to 6 Readings in Sociology. Instructor and student select reading topics which are not covered in depth in regular course offerings. Prerequisite: consent of department and instructor.

397-3 Special Topics in Sociology. Varying sociological topics selected by the instructor for study in depth and breadth. Topics will be announced in advance of registration for the course. Prerequisite: consent of department and instructor.

406-4 Social Change. Theories and problems of social change; their application, with emphasis on the modern industrial period.

412-4 American and Soviet Society. A sociological perspective on American and Soviet society. Combines a macroscopic analysis of major social institutions with microscopic examination of everyday life; shows how each social system molds personality and how socially acquired habits reinforce the social system. Designed to meet the needs of students interested in comparative and political sociology as well as those searching for an understanding of the problems of the two super powers. Prerequisite: none, 301 recommended.

415-3 Logic of the Social Sciences. (See Philosophy 415.)

423-4 Sociology of Gender. (Same as Women's Studies 442.) Examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro level, in work and family roles, in social institutions, and at the global, cross-cultural level.

424-4 Social Movements and Collective Behavior. A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society.

426-4 Social Factors in Personality and Adjustment. Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

435-4 Social Inequality. Discussion of theories and evidence pertaining to the socio-structural causes and consequences of inequality based on social class, prestige, power, gender, wealth, and income.

437-4 Sociology of Development. Survey of sociological theories of development including modernization, dependency, and world-system perspectives. Problem areas of development are examined: economic growth, state structures, multinational corporations, labor force, education, migration, population, and women's roles.

450-4 Social Thought. A survey of Western social thought from the ancient world to the founding of the modern social sciences in the 19th century.

451-4 Sociology of Language and Signs. (Same as Speech Communication 446.) Introduction to sociological semiotics with reference to such figures as Eco, Foucault, Derrida, Baudrillard, Saussure, Habermas, the ethnomethodologists. Emphasis on the place of language and signs in sociological explanation.

454-4 Sociology of Science. Emphasis on the origins and growth of science in historical perspective, reciprocal relations between science and society in the 20th Century, science as a social sys-

tem, differentiation within and relations between disciplines, and implications of the social organization of scientific research and funding.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness, the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area.

465-3 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors.

472-3 The American Correctional System. (See Administration of Justice 472.)

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: none; 6 hours of social/behavioral science recommended.

474-4 Sociology of Education. Methods, principles, and data of sociology applied to the educational situation; relation of education to other institutions and groups.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society.

497-4 Senior Seminar. Contemporary issues in sociology and the analysis of these issues. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor. Not for graduate credit.

498-1 to 4 Independent Research. With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor.

Special Major (Major)

The special major program allows qualified undergraduate students to design their own majors, if no existing major meets their academic needs and interests but existing University resources may be used to satisfy them. Guidelines for developing a special major curriculum are available in the office of the program administrator, the director of Undergraduate Academic Services. These require that the student:

1. obtain a faculty sponsor from a department with studies most like the major,
2. collaborate with the sponsor to propose a workable plan of study, structured coherently around a central topic, with a title that identifies the program's individualized purpose,
3. receive approval of the program proposal from the director of Undergraduate Academic Services,
4. complete at least 28 semester hours, mainly in upper level, 300 or 400, courses and clearly attributable to the special major, after final approval,
5. meet all graduation and course hour requirements of the University and of the college and department which agree to sponsor the special major. Final recommendation for a baccalaureate degree with a special major is the prerogative of the director of Undergraduate Academic Services, with approval of the appropriate college dean.

Special Education (Department, Major, Courses)

In the Department of Special Education, teachers are prepared to work with behaviorally disordered, mentally retarded, and learning disabled children. Students seeking the Standard Special Certificate will complete a 120 semester hour program leading to approval in one of the three handicap areas listed above. Stu-

dents who wish to obtain joint certification in special education and elementary education must complete a 149 hour program.

All programs are fully approved by the Illinois State Teacher Certification Board.

As with other teacher preparation programs within the University, departmental approval must be secured for each student after the student's first semester of membership in the department.

In the Department of Special Education this approval and subsequent approvals are based not only on continued satisfactory academic performance, but acceptable professional behaviors which the faculty deem essential for competent and effective educators of exceptional children and youth.

Bachelor of Science Degree, College of Education

SPECIAL EDUCATION MAJOR – STANDARD SPECIAL CERTIFICATE WITH APPROVAL IN BEHAVIORAL DISORDERS, OR MENTAL RETARDATION, OR LEARNING DISABILITIES¹

<i>General Education Requirements</i>	47
GEA: 9 hours	
GEB: 9 hours including 114, 202 and 301	
GEC: 12 hours including Music 101 (a GEC substitution), GEC 213, and one literature course	
GED: GED 101; 102 or 120; GED 152 or 153; Mathematics 114 to substitute for GED 107	
GEE: 4 hours including 201 and two hours of physical education activity.	
<i>Additional Requirements</i>	12
Art 348 or Curriculum and Instruction 325 or Physical Education 202	
Mathematics 314	
Psychology 301	
Educational Psychology 412 or Psychology 431	
<i>Requirements for Major in Special Education</i>	53-56
Professional Education Requirements	28
See Teacher Education Program, Chapter 3. (Education 312-3 hours) ¹	
Special Education Requirements	25-28
Special Education 400, 411, 423, 425	10
Curriculum and Instruction 312, 315	6
Certification Area	9-12
Behavioral Disorders: 401, 417, 430	
Mentally Retarded	
Educable Mentally Retarded: 402, 406, 418, 430	
Trainable-Severely/Profoundly Handicapped: 402, 406, 421, 431	
Learning Disabilities: 404, 419, 430	
<i>Electives</i>	5-8
Psychology 305, 307 (both required in behavioral disorders) Special Education 410; Curriculum and Instruction 407	
<i>Total</i>	120

¹To be certified in two areas of special education, a student must take problem and characteristics courses in both areas, methods courses in both areas and eight hours of student teaching in both areas.

SPECIAL EDUCATION MAJOR – JOINT CERTIFICATION IN SPECIAL EDUCATION AND ELEMENTARY EDUCATION SPECIALIZATION

<i>General Education Requirements</i>	50
GEA: 9 hours	

GEB: 12 hours including 114, 202 and 301
GEC: 12 hours including Music 101 (a GEC substitution), GEC 213 and one literature course
GED: GED 101; 102 or 120; GED 152 or 153; Mathematics 114 to substitute for GED 107
GEE: 4 hours including 201 and two hours of physical education activity.

Additional Requirements 24
Art 348 or Music 325 or Physical Education 202
Mathematics 314
Concentration in Social Science to include:
Psychology 301, 305, 307, 431..... 18

Requirements for Major in Special Education..... 72-75
Professional Education Requirements 31
See Teacher Education Program, Chapter 3.
(Education 312/400-6 hours)¹

Special Education Requirements 19-22
Special Education 400, 411, 423, 425 10
Certification Area 9-12
Behavioral Disorders: 401, 417, 430
Mentally Retarded
Educable Mentally Retarded: 402, 406, 418, 430
Trainable-Severely/Profoundly Handicapped:
402, 406, 421, 431
Learning Disabilities: 404, 419, 430

Elementary Education Requirements..... 22
Curriculum and Instruction 312, 315, 423, 424, 426, 427, 435

Total..... 146-149

¹Includes eight hours of student teaching for special education and eight hours of student teaching for elementary education.

Courses

- 400-3 Introduction to Special Education.** Physical, mental, emotional, and social traits of all types of exceptional children and youth. Effects of handicaps in learning situations. Methods of differentiation and techniques for rehabilitation. Case studies, observations, and field trips may be required.
- 401-3 Problems and Characteristics of the Behavior Disordered Children and Youth.** Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services for the emotionally disturbed and/or socially maladjusted. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.
- 402-3 Problems and Characteristics of the Mentally Retarded Child.** Emphasizes a developmental approach to understanding and dealing with children who have mildly and moderately reduced mental abilities. Considers historical, theoretical, and practical factors pertinent to mental retardation. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.
- 403-3 Problems and Characteristics of the Gifted Child.** Designed to help teachers in the identification of and programming for gifted and talented children. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.
- 404-3 Problems and Characteristics of Learning Disabled Children and Youth.** Behavioral, emotional, physical, and learning characteristics of children and youth, with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 400 or concurrent enrollment or consent of department chairperson.
- 405-3 Education of the Preschool Handicapped Child.** Emphasizes classroom procedures for enhancing development in children with developmental delay. Covers organization of the curriculum, goal setting, task analysis, lesson planning, and classroom organization. Practicum with preschool handicapped children is an integral part of this course. Prerequisite: 400, concurrent enrollment, or consent of chairperson.
- 406-3 Characteristics of Moderately and Severely Handicapped Learners.** Presents historical, theoretical, and research developments in service delivery for severely handicapped individ-

uals of all ages. Provides the basic developmental, instructional, and curricular background essential for prospective educators. Emphasizes a behavioral approach. Thirty hours of observation or equivalent applied experience is required.

408-3 Integrating Handicapped Children and Youth in Normalized Environments. For school personnel who serve directly and indirectly handicapped children and youth. The course focuses on providing the essential characteristic information and skills to appropriately educate the handicapped in a variety of settings.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the personality characteristics and educational needs of children who are diagnosed as mentally, emotionally, or physically handicapped. Prerequisite: 400 or consent of instructor and department chairperson.

410-2 International Aspects of Services for the Handicapped. Focus on innovative ideas and practices in other countries in preschool programs, special education, rehabilitation, vocational training and employment, recreation, community living, organizational structures, and legislation.

411-3 Assessment in Special Education. Designed to develop competency in students in the administration, scoring and interpretation of educational tests including the integration of findings from a number of tests. A laboratory fee is required to cover the cost of materials. No textbook is required. Prerequisite: 400; one of 401 or 402 or 404; or consent of department chairperson.

412-3 Assessment and Remedial Planning for the Preschool Handicapped Child. An introduction to the assessment of preschool handicapped children including the specifics of screening, tests used by the classroom teacher and observational procedures. A charge for testing materials is required. No textbook is required. Prerequisite: 400 or consent of instructor.

414-3 Assessment and Remedial Planning for Youth in Special Education. Testing, evaluation, and program development for adolescent students with special learning problems. Purchase of testing materials costing approximately \$12 is required. Prerequisite: 400 and consent of department.

417-3 Methods and Materials for Teaching Behaviorally Disordered Children and Youth. Psychoeducational procedures used in teaching the behaviorally disordered children and youth. Includes field trips, meetings with parents, and visits by resource persons from schools and agencies. Prerequisite: 400, 401.

418-3 Teaching Educable Mentally Handicapped Children Elementary Level. Psychoeducational strategies used in teaching the educable mentally handicapped children and youth. Prerequisite: 400, 402.

419-3 Methods and Materials for Teaching Learning Disabled Children and Youth. Psychoeducational strategies used in teaching children and youth with learning disabilities. Prerequisite: 400, 404.

421-3 Methods and Materials for Teaching Moderately and Severely Handicapped Children. Emphasizes a behavioral approach (i.e., systematic instruction) in teaching young students with severe handicaps (e.g., moderate MR, severe MR, profound MR, multiple handicapped, autistic). Systematic instruction is discussed in relation to applications across various curriculum domains. Each student must have access to working with moderately or severely handicapped students during the semester. All students are to develop and implement an instructional program during the course of the semester. Prerequisite: 400, 406.

423-2 General Procedures in Special Education. Deals with methods, materials, and instructional management practices common to the instruction of the handicapped. Prerequisite: 400; one of 401, 402, 403, or 404; or consent of department chairperson.

425-2 Home-School Coordination in Special Education. Consideration of the techniques used in parent interviews, conferences, and referrals by school personnel with parents of handicapped children. Prerequisite: 400 or consent of department chairperson.

430-3 Secondary Programming for Mildly Handicapped Students. Deals with modifications of and additions to school programs to ensure that they are appropriate to the needs of the mildly handicapped adolescent. Includes detailed coverage of joint work-study programs as preparation for vocational adequacy, and addition of remedial and compensatory program models. Prerequisite: 400 and one of 401, 402, 403, or 404.

431-2 Work-Study Programs for Severely Handicapped Adolescents to Age 21. Deals with program offerings in public school special education programs designed to prepare the severely handicapped adolescent for maximum vocational adequacy. Prerequisite: 400 and one of 401, 402, 404, or 406.

490-1 to 4 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Not for graduate credit. Prerequisite: 400 and consent of department chairperson.

Speech Communication (Department, Major, Courses)

The Department of Speech Communication offers courses in the history, theory

and application of communication. Program specializations prepare majors for professional, artistic, and instructional careers in human communication. The department also sponsors cocurricular activities in debate, forensics, oral interpretation, creative drama, and public relations, all of which are open to non-majors.

To meet requirements for a major in the Department of Speech Communication, a student must demonstrate the following basic skills: the ability to deliver effective public speeches and oral performances of literature; the ability to write clear, correct English prose; the ability to communicate effectively at the interpersonal level as well as in small and large groups; and the ability to understand and apply the theory and research which are relevant to the student's program specialization.

These competencies may be demonstrated by completing any of the major programs described below and by receiving no grade lower than *C* in the courses listed in the *Requirements for Major in Speech Communication* section of the specialization selected by the student. Under certain circumstances, a student may elect to demonstrate a competency by passing a proficiency examination administered by the Department of Speech Communication.

Bachelor of Science Degree, College of Communications and Fine Arts

SPEECH COMMUNICATION MAJOR – COMMUNICATION ARTS AND STUDIES SPECIALIZATION	
<i>General Education Requirements</i>	46
Must include GEC 200, GED 152 or 153	
<i>Requirements for Major in Speech Communication</i>	36
Speech Communication 221, 230, 261, 262, 325, 370	18
Electives in Speech Communication which must include at least three 400-level courses.....	18
<i>Electives</i>	38
<i>Total</i>	120

SPEECH COMMUNICATION MAJOR – ORAL INTERPRETATION SPECIALIZATION	
<i>General Education Requirements</i>	46
Must include GEC 200, GED 152 or 153, GEE 103d (2 hours), GEB 202 strongly recommended	
<i>Requirements for Major in Speech Communication</i>	54
Speech Communication 221, 230, 261, 262, 325, 370, 390-3, 433, 471, 472, 474, 491-3	36
English literature courses	12
Courses to be determined in consultation with adviser	
Theatre 213, 217	6
<i>Electives</i>	20
Recommended that electives be in speech communication, music, film, sociology, psychology, English, theater	
<i>Total</i>	120

SPEECH COMMUNICATION MAJOR – PUBLIC RELATIONS SPECIALIZATION

The public relations specialization is an interdisciplinary program designed with the assistance of the Public Relations Society of America.

Building upon the liberal arts and sciences required of all students in the general education program, the curriculum provides fundamental knowledge in social science, business management, marketing, political science, and research methods, and in communication through all types of media. The broad coverage of these disciplines provides a sound preparation for careers and graduate studies in public relations and the several areas included. Through flexibility in the choice

of restricted electives, the students are able to select courses in the field of their special interests in preparing for graduate work and specific careers goals.

Membership in the Raymond D. Wiley Chapter of the Public Relations Student Society of America provides opportunities for internships, field trips, job placement, involvement in on- and off-campus public relations projects, and association with the professional practitioners.

The active internship program enables selected students to obtain work-study experiences under the supervision of qualified practitioners in industrial, educational, and non-profit organizations. In most cases, academic credit is earned, and the student sometimes receives a stipend to defray living expenses.

General Education Requirements..... 46
Must include GEB 114, 202, GED 152 or 153, Economics 214 substitutes for GEB 211

Requirements for Major in Speech Communication..... 71
Speech Communication 280, 281, 326, 381, 382, 480, 481..... 21
Journalism 300, 310, 311, 315 (may substitute Design 322), and
any other 3 hour course in journalism (312 or 370
recommended)..... 15
Radio-Television 200..... 3
Psychology 307..... 3
Management 304..... 3
Marketing 304, 363..... 6
Computer Science 102 or 202 or Accounting 210..... 3
Political Science 340 or 213..... 3
Restricted electives..... 14

Selected from speech communication, management, marketing, finance, economics, political science, psychology, sociology, English. Some recommended courses are: Speech Communication 390 (may be repeated to a total of 3 hours), 362, 451, 483, 490; English 290, 390 or other approved English writing courses. Courses in journalism or radio-television do not count as a part of the restricted electives.

Internship: Speech Communication 494-1 to 4. The internship in public relations is open to selected students with consent of the instructor. Hours taken here apply against hours of restricted electives or other substitutions approved by the instructor.

Typing: Proficiency of 30 words per minute required.

Electives..... 3
Total..... 120

Bachelor of Science Degree, College of Communications and Fine Arts or College of Education

SPEECH COMMUNICATION MAJOR – COMMUNICATION EDUCATION SPECIALIZATION

General Education Requirement..... 46
Must include GEB 114, 202 and 301, GEC 200, GEC literature, GEC 213, GED 152 or 153, GEE 201 and two hours of physical education courses.

Requirements for Major in Speech Communication..... 33
Speech Communication 221, 230, 261, 262, 325, 370, 432..... 21
Mass media courses selected from the following: Radio-Television
300m, 300p, 467; Journalism 300, Speech Communication 452..... 6
Theatre 217 and 354 or 402a..... 6
Approved Minor..... 15

Professional Education Requirements (including Speech Communication 431) 27
See Teacher Education Program, Chapter 3.
Speech Communication 230 and 390 substitute for Education 312.
Total 121

Bachelor of Arts Degree, College of Liberal Arts

General Education Requirements..... 46
Must include GEC 200 and GED 152 or 153
College of Liberal Arts Academic Requirements (See Chapter 3.) (4) + 8-14
Requirements of Major in Speech Communication 36
Speech Communication 221, 230, 261, 262, 325, 370 18
Speech Communication electives which must include at least
three 400-level speech communication courses 18
Electives..... 24-30
Total 120

Minor:

A 15-hour minor in speech communication should be planned in consultation with the chairperson of the department or the undergraduate adviser. Students electing speech communication as a minor in a teacher education program must include Speech Communication 431.

Courses

Courses in speech communication are listed according to numerical order. However, the second digit in the course number indicates its locus in the speech communication curriculum, as follows:

- 00-09 Research Methods
- 10-19 Rhetoric and Criticism
- 20-29 Public Speech Communication
- 30-39 Speech Education
- 40-49 Language Behavior
- 50-59 Political Speech Communication
- 60-69 Interpersonal Speech Communication
- 70-79 Oral Interpretation
- 80-89 Organizational Speech Communication
- 90-99 Applied and Special Studies

- 100- Speech Communication Workshop.** A workshop in debate, oral interpretation, or public speaking for secondary school seniors interested in intensive study in one or more of these areas.
- 221-3 Advanced Public Speaking.** The components of effective speech with actual preparation and presentation of several types of speeches. Prerequisite: GED 153 or consent of instructor.
- 230-3 Introduction to Speech Communication Theory.** Introduction to speech communication theory. Examination of history and theoretical issues as a basis for understanding applied communication areas.
- 258-1 to 30 Work Experience.** Credit given for work experience by students enrolled in the Department of Speech Communication. Such credit is granted upon approval of the undergraduate adviser.
- 261-3 Small Group Communication.** Introduction to small group communication and the small group process. Special emphasis given to problem-solving discussion groups.
- 262-3 Interpersonal Communication II.** Focuses on face-to-face interaction and intergroup relations by combining information about human communication and practice in communication. Utilizes the laboratory method for learning to establish and develop communicative relationship with others. Prerequisite: GED 152 or consent of instructor.
- 280-3 Business and Professional Communication.** A survey of communication theory pertaining to business and professional settings. Provides practice applicable to interviews, conference briefings, and presentation techniques. Prerequisite: GED 152 or 153.
- 281-3 Introduction to Public Relations.** Philosophies and principles of agency, business, gov-

ernmental, and nonprofit public relations. Historical perspectives, current and future trends, and career opportunities explored.

310-3 Speech Composition. Rhetorical techniques of public address. Two major speeches prepared, with every possible refinement. Prerequisite: 221.

325-3 Argumentation and Debate. Through the study of argument, evidence, reasoning, and oral advocacy this course seeks to ensure competence in the ascertainment of truth by investigation and research and the establishment of truth through proof. The ultimate rationale for the course is the discovery and support of intelligent decisions. Prerequisite: 221, or 280, or GED 153, or consent of instructor.

326-3 Persuasion. The means of influencing individuals and groups through communication. Emphasizes the shaping of other's values, beliefs, attitudes and behavior primarily by the spoken word. Provides theoretical information about and practice in persuasive speaking, for sources and targets of persuasion.

340-3 Introduction to Language Acquisition. Interdisciplinary approaches to the interaction between language acquisition and communication development. Topics include nonverbal communication, phonology, syntax, semantics, and pragmatics. Provides a background for those working with young children.

341-3 Introduction to Intercultural Communication. (Same as Linguistics 341.) Examination of the elements and structure of intercultural and transracial communication in the United States. Designed to analyze and describe the interaction between social perception and expression as manifest in verbal and nonverbal behavior. Emphasis on the functional communication of minority groups. Prerequisite: 262 or GED 152 or consent of instructor.

358-3 Political Campaigns and Elections. (See Political Science 318.)

361-3 Nonverbal Communication. Nonverbal factors that influence the communicative interaction among persons. Review research findings and conduct projects germane to nonverbal communication. Readings, discussions, and research projects. Prerequisite: 262 or consent of instructor.

362-3 Communication and Social Process. Introduction to the phenomenology of human communication and social process. Analysis and description of interpersonal communication in the development and operation of human communities. Special emphasis is given to the nature of persons, consciousness, and communication exchange in society.

363-3 Analytic Creative Communication. Releasing creativity as creative interchange in persons and social relations, by analyzing and removing basic obstructions to beliefs, attitudes, desires, and habits, with increasing freedom to communicate creatively.

364-3 Synergetic Creative Communication. Releasing creativity as creative interchange in persons and social relations, by relating synergetically the analyzed fragments of knowledge for a creative lifestyle, with increasing freedom to communicate creatively.

370-3 Oral Interpretation II. Theory and practice in advanced interpretation techniques, with emphasis on the student as performer. Prerequisite: GEC 200 or consent of the instructor.

371-3 Storytelling and the Oral Tradition. Theory and practice in the art of storytelling with emphasis upon practical application, source materials, and historical and ethnic backgrounds.

381-3 Public Relations in Practice. Application of public theory and principles through training and practice in the development of public relations production skills including message construction and delivery, verbal, nonverbal, and visual production work and special events components. Prerequisite: 281 with a grade of C or better and passage of language skills examination.

382-3 Research Methods in Public Communication. An introductory survey of methods and techniques of audience analysis and public opinion research. Designed especially for public relations specialization. Instruction in the design of research tools, sample selection, interviewing, and the use of the computer for data analysis.

383-3 Interviewers and Interviewing. Planning, conducting, and analyzing interviews with emphasis on roles of interviewer and respondent in professional and organizational communication settings. Study of factors affecting accuracy, openness, and goal attainment in use of interview methods for evaluation and research. Individual and small group projects with selected aspects of interviewing. Prerequisite: 262 or 280 or consent of instructor.

390-1 to 6 Applied Communication. Supervised individual and group performance in various communication arts. Emphasis on the practical application of verbal skills. May be repeated for credit. A maximum of six hours may be counted toward a speech major; a maximum of six hours toward degree requirements. Prerequisite: consent of instructor and department adviser.

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works, and the mass media.

421-3 to 9 (3, 3, 3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominants in national and international affairs. A lecture, reading, and discussion course. Students may repeat enrollment to a total of nine hours. Prerequisite: for undergraduates, 411 or consent of instructor.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill basic to reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

431-3 Speech in Secondary School. Philosophy of speech education, and effective teaching of speech through curricular and extra-curricular work. Prerequisite: twelve hours of speech.

432-3 Secondary School Forensic Program. Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Students enrolled as majors in speech communication with a specialization in communication education must complete this course before enrolling for student teaching. Not for graduate credit. Prerequisite: 325, GEC 200.

433-3 Children's Literature in Performance. Study of children's fiction and poetry through analysis, creative drama, and performance, including solo and group work.

435-3 to 6 (3, 3) Topics in Creative Drama. An exploration of advanced theories and techniques for conducting sessions in informal drama. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 341 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychology theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Studies in Language Acquisition. Research in and theories of the development of verbal and nonverbal language with attention to the maturational process. Includes investigation of social, phonological, syntactical, and semantic correlates of communication development. Appropriate for advanced students interested in working with or conducting research involving children.

446-4 Sociology of Language and Signs. (See Sociology 451.)

451-3 Political Communication. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal, and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communications II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine values and priorities of human nature and cultural nature.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 370, GEC 200 or consent of instructor.

474-3 Staging Literature. Theory and practice of staging literature in the lyric mode with emphasis on adapting and directing. Prerequisite: 370 or consent of instructor.

475-3 Narrative Theatre. Theory and practice of staging narrative literature with emphasis on adapting and directing. Prerequisite: 471 or 474 or consent of instructor.

476-3 Writing as Performance. An examination of the practical and theoretical links between composition and performance. Lectures, reading, and assignments focus on performance as a means and an end to creative writing.

480-3 Dynamics of Organizational Communication. Introduction to interrelationships of communicative behavioral and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.

481-3 Public Relations Cases and Campaigns. Advanced course in public relations case analysis and campaign planning. Students critique public relations campaigns created by various profit, nonprofit, and agency organizations. Students also design public relations campaigns from problem identification through evaluation stages. Prerequisite: 381 and 382 with a grade of C or better.

483-3 Studies in Organizational Communication. Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production, and organizational climates. Individual research into selected aspects of organizational communication. Prerequisite: 480 or consent of instructor.

490-1 to 6 Communication Practicum. A supervised experience using communication skills. Emphasis on the development of performance skills in the following areas: (a) Communication studies. (b) Performance activity. (c) Interpersonal communication. (d) Debate and forensic activity. (e) Political communication. (f) Organizational communication. (g) Instructional communication. May be repeated for credit. Undergraduates limited to a total of six hours and graduate students to three to be counted toward degree requirements.

491-1 to 3 Independent Study in Communication. Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor and departmental adviser.

492-2 to 8 Workshop in Oral Interpretation. Summer offering concentrating in specialized areas of oral interpretation.

493-3 to 9 (3, 3, 3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

494-1 to 6 Internship in Public Relations. A supervised experience using public relations skills in a professional or career setting. Maximum of six hours to be counted toward degree requirements. Not for graduate credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

Technical Careers (College, Courses)

The College of Technical Careers offers the Associate in Applied Science and the Bachelor of Science degrees. The degree programs are listed alphabetically in this chapter. Requirements for admission and program completion vary and are stated within the description for each program.

Associate in Applied Science degrees are available in a variety of technical programs ranging from aviation maintenance to tool and manufacturing technology. Third-year specializations are available in certain program areas to further the student's technical knowledge.

The Bachelor of Science degree is designed to provide technically-oriented programs of study which are made up of both management and advanced technical course work. Details of each major area of study are listed under Advanced Technical Studies, Interior Design, or Consumer Economics and Family Management.

The following general education and technically-related courses are taught within the College of Technical Careers. They serve as common requirements for various majors. Some of the courses are also available to students enrolled in other academic units.

Courses

100-3 Introduction to Technical Careers. Designed to introduce prospective clientele to careers in technical fields and in specific to the College of Technical Careers with a focus on career decision making, selective admission procedures, course and licensure requirements, and career placement and mobility.

101-3 Business Correspondence. Principles and practice in written and oral communication. Includes development of ability to use words; application of correct grammatical construction in oral and written communiques; analysis, planning, and practice of composing different types of internal and external communications in various administrative and business contexts; refinement of listing skills; mechanics and basic procedures for dictation; and ability to conduct a business meeting. Course will help form good habits that will facilitate adaptability in the world of work. Lecture and individualized instruction three hours.

102-2 Technical Writing. To successfully complete this course, student should be proficient in

particular writing techniques (technical description, definition, classification, abstracting, etc.) and follow through a library or field research project in their individual technical fields. Lecture and individualized instruction. Prerequisite: GED 101.

105-4 (2, 2) Technical Mathematics. Will enable the student to solve problems within the context of engineering technologies. (a) Emphasizes the use of algebraic equations and geometric relationships and formulas, and right triangle trigonometry. Lecture-discussion, four hours per week for eight weeks. Prerequisite: one year of high school algebra or equivalent. (b) Emphasizes the application of trigonometric relationships to problems in applied technologies, and contains additional topics in algebra including linear systems, quadratic equations, and exponential and logarithmic functions. Lecture-discussion, four hours per week for eight weeks. Prerequisite: 105a or equivalent. The use of an electronic calculator with scientific functions is required for both (a) and (b).

107-4 (2, 2) Applied Physics. Places emphasis on basic and applied physics at a level consistent with technical education objectives. The student will learn laws and principles and solve problems pertaining to (a) mechanics and the structure of matter, (b) heat and electricity. Lecture-discussion four hours per week. Prerequisite: 105a or equivalent.

120-3 Fiscal Aspects of Technical Careers I. An individualized program of instruction designed to acquaint students enrolled in the various technical programs of the College of Technical Careers with applications and procedures common to their area of specialization. Students will be able to demonstrate a basic working knowledge of the standard documents and procedures related to their specific area through the use of business working papers and practice sets. Open only to students in the College of Technical Careers. Lecture three hours.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chairperson.

210-4 (2, 2) Job Orientation and Analysis. (a) Special instructional sessions offered on personality, clothing, job application, and professional ethics. Preparation of a portfolio consisting of a personal data sheet, an analysis of prospective employing firms, sample letters of application, and an acceptance or refusal. Practice in being interviewed by representatives of business and industry. (b) Students will be required to discover their interests in career opportunities, to explore these fields, and to discover job opportunities in their interest areas. Lecture four hours. Need not be taken in sequence.

215-6 (3, 3) Drafting Graphics. Use of drafting instruments, development of lettering and line-work; geometric construction, orthographic projections, sections, reflected plans, pictorial drawings, perspective, shades and shadows, and their adaption to print reading and production. (a) Instruments, lettering, linework, geometric construction, orthographic projections, sections, reflected plans, shades and shadows, non-perspective pictorial drawings. One hour lecture, five hours lab. Taken concurrently with Interior Design 231. (b) Perspective drawing methods, both interior and exterior with emphasis on interior perspectives including Klok Board, direct measurement, Lockard freehand perspective, geometric relationships, and shades and shadows and reflections in perspective drawings. One hour lecture, five hours laboratory. Must be taken in a,b sequence.

220-3 Fiscal Aspects of Technical Careers II. A continuation of 120 for selected curriculum areas. Emphasis on continued development of knowledge and skills typically involved in small business management, ownership, partnerships, and corporations. New areas of study will include automated data processing, cost estimating, and payroll tax procedures through the use of business working papers and a practice set. Prerequisite: 120.

258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation.

259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chairperson is required.

Technology (Department)

Two degree programs are available in technology. One program leads to the Bachelor of Science degree with a major in engineering technology (see Engineering

Technology) with specialization in one of three areas: civil engineering technology, electrical engineering technology, or mechanical engineering technology. The other program leads to the Bachelor of Science degree with a major in industrial technology (see Industrial Technology) with specialization in one of two areas: manufacturing technology or mining technology.

Engineering technology courses contain topics related to the design and development of products. Industrial technology courses contain topics related to the manufacture and distribution of products.

The present technological society has increased the demand for new types of personnel known as technologists. A technologist utilizes established methods to achieve improvements in existing designs and systems. Technologists should be knowledgeable in the state of the art of a particular technology, capable of utilizing handbooks and other forms of codified information with skill and discrimination, and sufficiently versed in mathematics and science to recognize sound procedures.

The technology programs are flexible enough to provide the means whereby a graduate of a two-year occupational program can obtain a bachelor's degree in a minimum length of time. The industrial technology program provides credit to individuals for related work experience outside the institution.

The programs are designed to provide the necessary training for entry into employment upon the completion of the baccalaureate degree. Opportunities for advanced study are available in business-related fields or in education.

Theater (Department, Major, Courses)

The Bachelor of Arts degree in theater is designed to provide the student with broad-based exposure to human experience and sound foundation in basic skills of theater craft. The undergraduate theater major provides the student with invaluable interpersonal and intrapersonal skills and builds inquiring and open minds—qualities required in most professions the student might wish to pursue after graduation—and further offers essential education and training for continued work in graduate or professional schools.

The extensive production schedule in two theaters—a proscenium house, the McLeod Theater, seating about 500, and a flexible Laboratory Theater, seating about 100—provides training in all aspects of theater, augmented by courses in acting, voice, movement, directing, playwriting, production design, and technical theater. The production schedule is extensive enough to allow students the opportunity to design sets, lights, and costumes and to write, perform, and direct for productions bridging all dramatic genres, including musical theater.

In addition to the General Education requirements, all theater majors must complete a theater core curriculum of 27 semester hours, all of which must be completed with a grade of *C* or better; a liberal arts component of 15 hours, selected by advisement from courses outside the Department of Theater; and 33 hours of theater electives, to include at least 9 hours at the 400 level. These 33 hours may include a minor of 15 hours in such complementary fields as art, clothing and textiles, computer science, English, foreign languages, history, journalism, music, philosophy, psychology, recreation, sociology, and speech communication.

Theater course credit earned at other institutions of higher learning, not used for General Education requirements at the time of transfer, can be applied to the Bachelor of Arts degree program with the approval of the faculty of the Department of Theater.

Bachelor of Arts Degree, College of Communications and Fine Arts

<i>General Education Requirements</i>	46
Must include GEC 103.	
<i>Requirements for Major in Theater</i>	75
Theater Core Curriculum.....	27
Theater 205.....	2
Theater 218a.....	3
Theater 218b or c.....	3
Theater 217.....	3
Theater 300.....	4
Theater 311a.....	3
Theater 354a,b.....	6
Theater 402a.....	3
Liberal Arts Component (by advisement).....	15
Theater Electives (minimum of 9 semester hours at the 400 level)...	33
<i>Total</i>	121

Students interested in acting might elect:

Theater 203.....	3
Theater 303a,b,.....	6
Theater 317a,b,.....	6
Theater 350.....	3
Theater 402b.....	3
Theater 403.....	3
Theater 417.....	3

Students interested in design/technical might elect:

Theater 218b or c.....	3
Theater 350.....	3
Theater 407.....	3
Theater 408.....	3
Theater 409.....	3
Theater 414.....	3
Theater 418.....	3
Theater 419.....	3

Minor

<i>Requirements for Minor in Theater</i>	15
A minor in theater consists of Theater 311a, with GEC 103 as a pre-requisite, plus any combination of theater courses to reach a total of 15 semester hours.	

Courses

- 203-3 Introduction to Voice and Movement.** Fundamentals of vocal production and movement for the stage: breathing, phonating, kinesthetic awareness, warm-up, and use of space.
- 205-2 Stage Make-up.** Theory and technique of various types of make-up. Supplies, at least \$25 per semester.
- 217-3 Acting.** Preparing the actor's instrument through Stanislavskian technique; concentration/relaxation exercises; improvisations. The course objective is the discovery and development of the actor's inner resources. Contemporary American plays are studied from the actor's point of view. Readings are selected from the work of Stanislavsky, Boleslavsky, and Michael Chekhov. A final scene is chosen from the genre of American realism.
- 218-9 (3, 3, 3) Beginning Stagecraft.** (a) Fundamentals of scenic construction and stage rigging and fundamentals of stage lighting including basic tools, equipment, hanging, focusing, and maintenance and basic techniques of constructing and handling stage costume. (b) Basic investigation

of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. (c) Basic techniques of constructing and handling stage costume.

260-1 to 15 Internship. Off-campus internship which is related to the major program but not part of a regular instructional course. Written reports are required of student and supervisor. Prerequisite: theater major; written proposals must be approved by undergraduate adviser and curriculum committee prior to internship. Mandatory Pass/Fail.

300-1 to 4 (1 per semester) Theater Practicum. Offers students an opportunity to increase their skills in stagecraft, stage lighting, and costumes by working on department productions. Prerequisite: 218a,b, or c.

303-6 (3, 3) Movement and Voice for the Actor. (a) Movement for the Actor: Intermediate studies in stage movement. Combat, mask work, improvisation. (b) Voice for the Actor: Intermediate studies in stage voice. IPA, standard speech, text analysis, scansion, cold readings. Prerequisite: 203.

309-3 Drafting for the Theater. Development of the student's skill in scenographic techniques including ground plans, sections, elevations, and detail construction drawings. Prerequisite: 218a or concurrent enrollment.

311A-3 Play Analysis. Development of basic skills in play analysis and application of these skills to a variety of dramatic forms through class discussions and written assignments. Prerequisite: GEC 103 or one course in dramatic literature.

311B-3 to 6 Playwriting Workshop for Actors. Practical experience in acting in original plays combined with class discussions and critiques. Actors attend class sessions as well as rehearsals and have their work progressively evaluated. Six credit hours are awarded for the more intensive workshop sessions in the summer while three credits are available during the academic year. Workshop productions are staged in cooperation with 511. Prerequisite: audition.

317-6 (3, 3) Intermediate Acting. (a) The study and application of various theories of the acting process. Coursework includes monologue and scene work. Prerequisite: 217. (b) The study and application of Shakespeare in the development of the actor's process. Prerequisite: 317a and consent of instructor.

322-1 to 12 SIU Summer Theater. Practical experience in summer stock play production. A maximum of twelve credit hours may be accumulated for performance or technical work in SIU Summer Theater only. Open to majors or non-majors. Prerequisite: audition or consent of instructor.

323-1 to 6 Practicum for Non-Majors. Practical experience in non-performing production areas for non-majors. Up to six hours may be taken at one time. This course may not be applied to a major in theater. Prerequisite: audition or consent of instructor.

350-3 to 9 (3 per topic) Topical Seminar. An intensive examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

354-6 (3, 3) History of the Theater. (a) Theater history from primitive times through the 17th century. (b) Theater history from the 18th century to the present.

390-1 to 6 Independent Study. Independent work on selected problems in academic or blend of academic and creative research. A maximum of three hours may be taken for a single project and a cumulative maximum of six hours may count toward the degree. Prerequisite: majors only; written proposals; consent of undergraduate adviser and instructor.

400-1 to 6 (1 to 2 per semester) Production. Practicum for support of major department productions in all areas. Roles in department productions may fulfill requirement.

402-6 (3, 3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; and examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 217 and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis and patterning of auditory and visual elements of production. Directing of a one-act play. Prerequisite: consent of instructor.

403-3 Advanced Voice and Movement. Advanced studies in voice and movement with special attention to period styles, commedia dell'arte, and period dance for the stage. Prerequisite: 303.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion, and public relations.

407-3 Scene Design. Technical and artistic aspects of scene design. Theory and practice. Supplies at least \$25 per semester. Prerequisite: 218a,b; 309; 311a, 354a,b; Art 110; or graduate standing.

408-3 Model Making. The craft of scenic model making for the stage and other dramatic media. Prerequisite: 407 or consent of instructor.

409-3 Scene Painting. Studio work in lining, paneling, tromp l'oeil ornament, and drapery. Prerequisite: 218a, 309, Art 110; or graduate standing.

- 410-3 Children's Theater.** Study of methods and their practical application of introducing children to theater and theatrical productions as an art form. Includes the writing of a short play for children. Recommended for majors in education programs.
- 411A-3 Playwriting – The One-Act Play.** Principles of dramatic construction and practice in the writing of two one-act plays. Problems of adaptation are treated. Individual plays have the opportunity to be produced in the theater's program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for undergraduate theater and speech communication majors; or consent of instructor.
- 411B-3 Playwriting – The Full-Length Play.** Principles of dramatic construction and practice in the writing of a full-length play, encompassing such varied types as the children's play, the musical, the outdoor historical drama, etc. In special cases, students may elect to write three short plays. Prerequisite: 411A or consent of instructor for non-majors; 311a for undergraduate theater majors.
- 414-3 Costume Design.** History of western costume from Greek to Renaissance and its adaptation to stage use. Theory and practical application of design and color. Supplies at least \$25. Prerequisite: 218c, 311a, 354a,b; or graduate standing.
- 417-3 Advanced Acting.** Utilization of the actor's process in the performance of European realism and various theories and styles of the twentieth century. Prerequisite: 317b.
- 418-3 Advanced Stage Lighting.** Investigation of stage lighting design, theory, and professional practice. Special attention to color theory and its application to stage lighting. Four hours lecture/laboratory. Prerequisite: 218b, graduate standing, or consent of instructor.
- 419-3 Advanced Stagecraft.** Advanced study of principles and procedures of scenic construction and stage rigging. Includes scene shop organization, materials, and specialized stage equipment; preparation for professional technical direction. Lecture and laboratory to be arranged. Prerequisite: 218a,b, 309, 407; or graduate standing.
- 454-3 American Theater.** The development of American theater from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.
- 489-3 to 6 Theater-Television Workshop.** Advanced work in the producing, acting, and writing of original television drama. Prerequisite: C grade in Radio-Television 300M, 300P and consent of instructor for radio-television majors; consent of instructor for theater and other majors.

Tool and Manufacturing Technology

(Program, Major, Courses)

- The Tool and Manufacturing Technology program offers three specializations: Machine Tool (computer aided machining), Metal Fabrication and Processes, and Tool Design. These options provide training in a variety of manufacturing processes needed to successfully compete in today's job market in manufacturing, construction, and mining industry.
- Graduates of Machine Tool (CAM) specialization will have the technical skills to assist engineers in research, development, and testing. They will also have skills in metal cutting and CNC programming needed to successfully compete for jobs such as tool and die maker, tool room machinist, CNC machine tool programmer, CNC machine tool operator, model maker and maintenance machinist.
- The Metal Fabrication and Processes specialization provides an opportunity to blend basic machining skill, computer aided manufacturing, robotics, machine tool programming, welding and fabrication skills with the technical skills needed to successfully compete for jobs in research and development, computer aided fabrication, robotic welding, model maker, materials testing, construction welding, maintenance welding and metal fabrication shops.
- The Tool Design specialization provides the in-depth training required to develop computer aided design skills. Emphasis will be on the design of production tooling, stamping and form dies, mold dies, jigs, and fixtures for CNC tools. Basic machining and welding skills in combination with concentrated computer aided drawing and design skills provide the graduate with the technical skills to enter the manufacturing industry as qualified tool design technicians.
- The tool and manufacturing curriculum is designed to award credit where ap-

plicable for industrial experience, special courses taken during military training, and transfer work from community colleges. Graduates of recognized area vocational centers or private vocational schools will be given an opportunity to qualify for advanced placement and proficiency credit.

The tool and manufacturing curriculum fits between the areas occupied by the mechanical and manufacturing engineer and the skilled trades person. It includes theory procedures, techniques, and skills from each of these areas and falls approximately halfway between.

Students in this program will have the advantage of courses in computer aided manufacturing, computer aided design, robotics, and computer integrated manufacturing in addition to traditional metal working and related classes. Students will learn to program CNC equipment, read working drawings, design basic jigs and fixtures, make shop sketches, build progressive dies, form dies, modify and repair equipment, select proper materials for repair and construction, heat treat tool steels, perform sophisticated welding operations and develop process planning sequences for manufacturing.

Advanced courses beyond the A.A.S. degree requirements are offered to enable a student to acquire advanced technical knowledge and skills. If a student chooses to pursue a baccalaureate degree in the College of Technical Careers' Advanced Technical Studies Division, the 300 level Tool and Manufacturing Technology classes can be a part of this curriculum.

Students in tool and manufacturing technology should expect to spend about \$150 for instruments, tools, and supplies.

Representatives of industry and education form an Advisory Committee which helps to keep the program responsive to the needs of the manufacturing field. The industries represented are: McDonnell Co., St. Louis; Smith Nephew Co., St. Louis; General Electric Co., Carbondale; Norge Division, Herrin; Diagraph Corporation, Herrin; Old Ben Coal Co., Benton; Mt. Vernon High School, Mt. Vernon and Southern Illinois University, Carbondale.

The associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Technical Careers

TOOL AND MANUFACTURING TECHNOLOGY MAJOR –

MACHINE TOOL (COMPUTER AIDED MANUFACTURING) SPECIALIZATION

GED 101.....	3
Social science elective.....	3
Communication elective (speech or technical writing).....	2-3
Technical Careers 105a,b, 107a,b	8
Tool and Manufacturing Technology 101, 102, 125, 126, 185, 186, 208, 210, 211, 220, 221, 225, 275, 276.....	54
Total.....	70-71

TOOL AND MANUFACTURING TECHNOLOGY MAJOR –

METAL FABRICATION AND PROCESSES SPECIALIZATION

GED 101.....	3
Social science elective.....	3
Communication elective (speech or technical writing).....	2-3
Technical Careers 105a,b, 107a,b	8
Tool and Manufacturing Technology 101, 102, 125, 126, 180, 181, 182, 183, 185, 225, 275, 276, 310.....	50
Total.....	66-67

TOOL AND MANUFACTURING TECHNOLOGY MAJOR –
TOOL DESIGN SPECIALIZATION

GED 101.....	3
Social science elective.....	3
Communication elective (speech or technical writing).....	2-3
Technical Careers 105a,b; 107a,b	8
Tool and Manufacturing Technology 101, 102, 125, 126, 180, 185, 186, 208, 225, 230, 240, 275, 276	49
Total.....	65-66

Courses

- 101-1 to 6 Basic Tool and Manufacturing Laboratory.** The student will perform the basic operations covering the drill press, engine lathe, shaper, and basic bench work operations involving layout and hand tools. The operation of the shaper as a unit production machine is covered. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour.
- 102-1 to 6 Milling Machine and Grinding Laboratory.** The student will demonstrate ability to set up and operate the various milling machines and grinding machines common to the tool room and manufacturing operations. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour. Prerequisite: 101 or consent of instructor.
- 125-1 to 3 Introduction to Machine Tools.** The student will demonstrate knowledge of the basic machine tool operations; also, bench and hand tool techniques. Lecture one to three hours.
- 126-1 to 3 Machinability of Metals, Milling, and Abrasive Machining.** Students will demonstrate ability to select correct cutting speeds, feeds, and tool geometry for various alloy steels and to understand the relationship of the factors involved. They will be required to understand the various tool room and production milling machine and grinders; their construction, set-up, and operations. Lecture one to three hours. Prerequisite: 125 or consent of instructor.
- 180-3 Oxy-Acetylene and Elementary Arc Welding Procedures.** Includes theory and practice of oxy-acetylene fusion welding, cutting, hard soldering, and introductory shielded metal arc welding with emphasis on flat and horizontal positions. Students will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours.
- 181-3 Intermediate Arc Welding and Elementary Inert Gas Welding.** Includes theory and practice of intermediate shielded metal arc welding with emphasis on vertical and overhead positions and an introduction to gas tungsten arc, gas metal arc, cored wire welding, and arc/air cutting procedures. Students will pay materials charge in the amount or \$1.50 per credit hour. Lecture one hour. Laboratory four hours.
- 182-3 Advanced Shielded Metal Arc Welding Procedures.** Includes theory and practice of gas, tungsten arc, gas metal arc, cored wire welding. Major emphasis will be placed on the preparation of weld specimens for destructive testing and subsequent analysis of the weldment. Student will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours. Prerequisite: 181 or consent of instructor.
- 183-2 Welding Blueprint Reading.** Emphasizes the basic fundamentals of drawing interpretation as applied to welding and metal fabrication. The student will be expected to develop a core of blueprint reading skills in addition to a thorough familiarization of welding symbols and their significance. Through individualized instruction, students will progress at their own rate until course requirements have been satisfied as certified by the supervising faculty member.
- 185-3 Technical Sketching/Blueprint Reading.** Upon completion of this course, the student should be able to read and sketch pictorial and multiview drawings which include auxiliary views, sectional views, assemblies, weldments, up-to-date types of precision dimensioning, and many types of fasteners and machine elements. Lecture one hour. Laboratory four hours.
- 186-4 Jigs and Fixtures Design.** This course introduces the use of drawing instruments and computer aided design. This enables the student to read more complex drawings, make geometric constructions where accuracy of layout is important, and design and draw simple jigs and fixtures. Lecture two hours. Laboratory three hours. Prerequisite: 185 or consent of instructor.
- 208-4 Numerical Control Programming.** Principles involved in controlling machine tool motions by computer. Emphasis on applications of the microcomputer to numerical control, programming, and tool path simulation. Lecture two hours. Laboratory three hours. Prerequisite: 102 or consent of department.
- 210-1 to 7 Numerical Control, Electrical Discharge Machining, and Tool and Die.** The student will demonstrate ability to set-up and operate the numerically controlled milling machine for production jobs; to set-up and operate the electrical discharge machine on die and mold making applications; and to build progressive compound and forming dies. Laboratory five to fifteen hours. Student will pay shop supply charge of \$2.00 per semester hour. Prerequisite: 102 or consent of instructor.
- 211-1 to 7 Advanced Numerical Control, Tool and Die, and Production Machining.** Stu-

dents will demonstrate ability to set-up and operate advanced production jobs on the turret lathe, tracer lathe, and numerically controlled milling machines. They will build progressive dies and mold dies. Laboratory five to fifteen hours. Student will pay shop charges of \$2.00 per credit hour. Prerequisite: 210 or consent of instructor.

220-1 to 3 Numerical Control, Inspection Practices, and Electrical Discharge. The student will demonstrate ability to program for typical industrial jobs using point to point programming, to understand the E.D.M. process and to select proper machine settings for a given application, and to understand inspection practices and precision measuring procedures. Lecture one to three hours. Prerequisite: 126 or consent of instructor.

221-1 to 3 Tool and Die, Production Machining, and Process Planning. The student will demonstrate ability to process plan and run cost estimates on typical production jobs; to understand basic die design and components in relation to progressive compound and forming dies, and to understand production processes. Lecture one to three hours. Student will pay shop supply charges of \$2.00 per credit hour. Prerequisite: 220 or consent of instructor.

225-2 Principles and Processes in Modern Manufacturing. This is an introduction to the principles involved, and the materials used in modern manufacturing. Emphasis will be on analysis and comparison of several processes relating to the Tool and Manufacturing field. Special attention is given to new technological advances related to the modern machine tool industry, including CAD, CAM, CIM and plastics production.

230-2 to 7 Tool Design I. Tool design practices with emphasis on jigs, fixtures, and gages. Students will develop concepts and prepare working drawings of production tooling with particular emphasis on manufacturing sequence, quality control, and utilization of standard components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 186 or consent of instructor.

231-2 to 7 Tool Design II. Die design practices with emphasis on blanking, piercing, compound, and forming dies. Students will develop design concepts and prepare working drawings of dies in accordance with die design standards and utilization of standardized die components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 230 or consent of instructor.

240-3 Fundamentals of Jig, Fixture and Gage Design. A study of the principles involved in developing appropriate tool design concepts. Such factors as processing sequence, clamping techniques, locating devices, and dimensional tolerances will be studied with appropriate considerations given to such factors as tool costs, quantity production, machine selection and operator safety. Lecture three hours. Prerequisite: 186 or consent of instructor.

241-3 Fundamentals of Die Design. A study of the principles involved in the use and design of dies used for the fabrication of sheet metal parts in punch press. Emphasis will be on blanking, piercing, compound, and forming dies. Such factors as drafting room standards, die design standards, punch press capacity, and the use of standardized and interchangeable components will be studied in keeping with desirable levels of manufacturing costs and product quality. Lecture three hours. Prerequisite: 240 or consent of instructor.

275-2 Ferrous Metallurgy. The student will demonstrate understanding in the theory of alloys, characteristics of metals, simple phase diagrams and basic heat treating practices. Lecture two hours.

276-2 Tool Steel Metallurgy. Students will demonstrate ability to apply heat treating procedures with tool steel common to industrial uses. They must also be able to select the proper steel for the design criteria. Lecture one hour. Laboratory two hours. Prerequisite: 275 or consent of instructor.

310-3 to 24 Welder Qualification. Students may choose a concentrated area of training such as pipe welding or structural welding of carbon steel, alloy steel, stainless steel, and aluminum. They may choose any one or all of the following welding processes: shielded metal arc, gas metal arc, gas tungsten arc, and cored wire welding. Upon completion of this course, the student should have developed skills required for pressure and nuclear piping fields, structural steel and bridge welding. Qualification is determined through visual inspection and mechanical testing according to ASME or AWS code requirements. Through individualized instruction, students will progress at their own rate and may complete instruction at any time depending upon individual progress. Qualification papers will be completed by the College of Technical Careers and presented to the student or forwarded to an employer. A student will pay \$1.50 per semester hour lab fee. Lecture Lab six hours per three credit hour load. Prerequisite: 182 or graduate of an approved welding program or consent of coordinator.

320-1 to 12 (1 to 4 per topic) Advanced Tool and Manufacturing Studies. Provides students with an opportunity for advanced studies in their areas of interest in tool and manufacturing technology. Emphasis will be on literature search and advanced technical skills development in the student's areas of specialization. (a) Machine tool, i.e., numerical control programming, advanced diemaking, process planning, machinability studies. (b) Metal fabrication, i.e., design of welded structures, metallurgical aspects of welding, welding quality control procedures. (c) Tool design, i.e., plastic mold design, interchangeable die components, tooling for automatic processes. Students will develop written project objectives with the assistance of a sponsoring faculty member

and submit a final paper detailing the semester's activities. Shop and supply charges to be individually determined and specified in project objectives. Credit to be individually arranged based on the nature and complexity of the project. Prerequisite: associate degree in tool and manufacturing technology or consent of instructor.

321-1 to 6 Computer Aided Die Design. This an introduction to the principles involved in advanced die design and production tooling. Emphasis will be on progressive dies, deep draw dies, forging dies, plastic injection molding dies, trim dies, and steel rule dies. Prerequisite: AAS degree in approved technical area or consent of coordinator.

322-1 to 6 Complex Die Making. This course will provide instruction in the high degree of precision skills required for complex die making. Emphasis will be on programming CNC machine tools to produce interchangeable complex die sections. Prerequisite: AAS in approved technical area or consent of coordinator.

323-1 to 6 Computer Integrated Manufacturing. This course will provide instruction with the manufacturing work cell. This will enable the student to design and build appropriate tooling to process raw material through a manufacturing line to produce a completed part fully automated. To accomplish this, the computer, robot, rotary table, conveyor, and CNC mill are programmed to complete the manufacturing process. Prerequisite: AAS in approved technical area or consent of program coordinator.

Uncommon Languages (Minor)

(SEE LINGUISTICS)

University Honors Program (Program, Courses)

The University Honors Program is a university-wide undergraduate program designed to reward SIUC's best students for their high academic achievement. The heart of the program is the Honors curriculum: small classes, called seminars, unique in character and specially designed for University Honors students by outstanding SIUC faculty. Each Honors seminar is limited in size to 15 students, and restricted in enrollment to Honors students only. The university allows Honors students to substitute Honors seminars for up to 32 of their 46 semester hours of General Education requirements (see General Education – approved substitutes, Chapter 4).

Membership in the University Honors Program brings additional advantages including extended check-out privileges at Morris Library, early academic advisement and registration, publication in *Papyrus* (the journal of the Honors Program), and others.

Continuing SIUC students and transfer students with at least 12 semester hours of college credit qualify for admission to the University Honors Program on the basis of a cumulative grade-point average of 3.25 or higher. Entering freshmen qualify for admission to the program on the basis of an ACT composite score in the 95th percentile or higher.

The program is also described in more detail in Chapter 3. Fuller information and application forms are available at the University Honors Program office, Faner Hall 2427.

111-1 Freshman Honors Colloquium. Open to freshmen. Prerequisite: consent of the director of University Honors Program.

201-1 to 9 Honors Seminar. Topics vary and will be announced by the University Honors Program each time the course is offered. Prerequisite: consent of the director of University Honors Program.

251a-1 to 9 Honors Seminar in the Sciences. Seminars in the area of the natural sciences intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Education Area A. Prerequisite: consent of the director of University Honors Program.

251b-1 to 9 Honors Seminar in the Social Sciences. Seminars in the area of the social sciences intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Education Area B. Prerequisite: consent of the director of University Honors Program.

251c-1 to 9 Honors Seminar in the Humanities or the Arts. Seminars in the area of the hu-

manities or the arts intended primarily for freshmen. These seminars may be used to satisfy the requirement for General Education Area C. Prerequisite: consent of the director of University Honors Program.

251d-1 to 6 Honors Seminar in Language or Mathematics. Seminars in the area of the organization and communication of ideas, intended primarily for freshmen. Prerequisite: consent of the director of University Honors Program.

251e-1 to 4 Honors Seminar in Health and Physical Education. Seminars in the area of health and physical education, intended primarily for freshmen. These seminars may be used to satisfy a part of the requirement for General Education Area E. Prerequisite: consent of the director of University Honors Program.

299-1 to 15 Honors Project. Preparation of honors paper or comparable project under joint supervision of University Honors Program and a faculty member of subject-matter department. Intended primarily for freshmen and sophomores. Prerequisite: consent of the director of University Honors Program.

301-1 to 9 Honors Seminar. Undergraduate honors seminar. Topics vary and will be announced by the University Honors Program each time the course is offered. Prerequisite: consent of the director of University Honors Program.

351a-1 to 9 Honors Seminar in the Sciences. Seminars in the area of the natural sciences. These seminars may be used to satisfy the requirement for General Education Area A. Prerequisite: consent of the director of University Honors Program.

351b-1 to 9 Honors Seminar in the Social Sciences. Seminars in the area of social sciences. These seminars may be used to satisfy the requirement for General Education Area B. Prerequisite: consent of the director of University Honors Program.

351c-1 to 9 Honors Seminar in the Humanities or the Arts. Seminars in the area of the humanities or the arts. These seminars may be used to satisfy the requirement for General Education Area C. Prerequisite: consent of the director of University Honors Program.

351d-1 to 6 Honors Seminar in Language or Mathematics. Seminars in the area of the organization and communication of ideas. Prerequisite: consent of the director of University Honors Program.

351e-1 to 4 Honors Seminar in Health and Physical Education. Seminars in the area of health and physical education. These seminars may be used to satisfy a part of the requirement for General Education Area E. Prerequisite: consent of the director of University Honors Program.

399-1 to 15 Honors Project. Preparation of honors paper or comparable project under joint supervision of University Honors Program and a faculty member of a subject-matter department. Prerequisite: consent of the director of University Honors Program.

499-3 to 9 Undergraduate Honors Thesis. Preparation of honors thesis under supervision of a committee consisting of one or more faculty members in appropriate disciplines and a representative of the University Honors Program. Prerequisite: consent of the director of University Honors Program.

University Studies (Program)

The University Studies program allows the eligible student to design a multidisciplinary, interdisciplinary, or general program of study leading to a Bachelor of Science or Bachelor of Arts degree. The Bachelor of Arts degree is granted to the graduate who has completed at least one full year of foreign language on the college level; the Bachelor of Science degree is granted to the graduate who has not completed a year of foreign language.

In order to be formally admitted to work toward a degree in University Studies, the student must meet the following criteria:

1. The student must have no more than 90 semester hours passed.
2. The student must have completed at least one full year of college course work — a minimum of 24 semester hours — with a 2.25 grade point average or higher. (For entering transfer students, the 2.25 must be for all college work previously completed; for continuing Southern Illinois University at Carbondale students, the 2.25 must be for all Southern Illinois University at Carbondale work.)
3. The student must not have exceeded any of the limitations prescribed by the program.
4. The student must have the individual program plan approved by the program director.

There are few specific requirements for the degree in University Studies other than those requirements which are University-wide baccalaureate requirements. However, there are limitations on the selection of coursework to ensure that students pursue a program that matches their abilities, educational goals, and future aspirations.

Bachelor of Arts Degree

General Education Requirements	46 ¹
Requirements for University Studies	74 ²
Foreign language	(4) + 4
300-400 level coursework	40 ¹
Other courses as approved by the program director	31
Total	120

Bachelor of Science Degree

General Education Requirements	46 ¹
Requirements for University Studies	74 ²
300-400 level coursework	40 ¹
Other courses as approved by the program director	35
Total	120

¹The student must have a minimum grade point average of 2.00 for the 40 semester hours of 300-400 level coursework. General Education courses at the 300-level count toward both the General Education requirements and toward the requirement of 40 semester hours at the 300-400 level.

²There are two limitations placed on course distribution:

a. The student may take no more than 40 semester hours in any academic unit *excluding* the basic 46 semester hours required in General Education – with the exception of the College of Liberal Arts where no more than 27 semester hours in the Social Sciences (excluding the nine semester hours required in Area B) and no more than 27 semester hours in the Humanities (excluding the nine semester hours required in Area C and excluding English Composition) may be taken.

b. The student may take no more than 20 semester hours in a department (or in a School within a College). General Education courses are to be included in the total *except* for the basic 46 semester hours required.

In other words, *any* General Education courses taken in addition to the minimum requirements are counted both toward the academic unit limits allowed and toward the department limits allowed.

University (Courses)
Courses

100-0 Learning Skills. Designed to provide students with the learning skills necessary to pursue college level work. Those learning skills include attitude toward university studying, setting goals, time management, classroom note taking, textbook study techniques, library skills, concentration, and speed reading. Mandatory Pass/Fail.

Vocational Education Studies (Department, Majors, Courses)

Two majors and seven specializations are offered in the department. The clothing and textiles major prepares persons for professional roles as designers, supervisors, visual merchandise managers, buyers, sales representatives, and related positions in the fashion industry. Specializations are offered in apparel design, retailing, and a double specialization.

The vocational education studies major prepares persons for teaching, supervisory, and leadership roles in secondary schools, proprietary schools, technical institutes, colleges and universities, business and industry, government, extension services, and the military. Students may develop competency in a variety of technical and subject areas within the specializations of business education; education, training and development; industrial education; health occupations education, and home economics education. Qualified students may be accepted

into the capstone program with a major in vocational education studies. The capstone program is explained in Chapter 4.

CLOTHING AND TEXTILES (Major)

Students majoring in clothing and textiles may specialize in either apparel design or retailing. A double specialization is available for students with broader interests and goals, and a special major may be planned with approval of the program director. A minor in clothing and textiles is also available.

Bachelor of Science Degree, College of Education

CLOTHING AND TEXTILES MAJOR – APPAREL DESIGN SPECIALIZATION

This specialization is intended for the student interested in professional preparation in apparel design or allied design positions in either industrial or commercial fashion businesses. The courses available to the student cover textile information, fashion design, and skills required for developing original designs into patterns and completed garments. Courses in clothing and textiles are complemented by ones in art, business, and other areas in order to provide a suitable background for various career opportunities.

<i>General Education Requirements</i>	46
GEB 202, 211	6
<i>Requirements for Majors in Clothing and Textiles with Apparel Design Specialization</i>	71
Vocational Education Studies 336, 337, 338a-3, 338b-3, 340, 342, 343, 345, 346, 347, 348, 439 or 449, 440, 444, 445, 446, 448	53
Art 100a, 110, 206 and art history	12
Professional electives	6
Choose from the following: art, business, clothing and textiles, journalism, marketing, psychology, theater, or other approved courses.	
<i>Electives</i>	3
<i>Total</i>	120

CLOTHING AND TEXTILES MAJOR – RETAILING SPECIALIZATION

This specialization prepares students for professions in retail stores, either as buyers or managers, visual merchandise or other related positions. The courses available to the student cover textile information, fashion merchandising, marketing and other business-related courses.

<i>General Education Requirements</i>	46
GEB 202, 211	6
<i>Requirements for Majors in Clothing and Textiles with Retailing Specialization</i>	71
Vocational Education Studies 336, 337, 339, 341-1, 343, 345, 346, 347, 349, 350, 442, 445	35
Art 100a	3
Accounting 210 or 220	3
Management 301 or 304 or Psychology 320 or 323	3
Computer Information Processing 229 or Computer Science 202 or 212 or Vocational Education Studies 306	3
Marketing 304, 363, 401 plus 3 additional hours	12
Professional electives	12

Choose from the following: art, business, clothing and textiles, finance, journalism, marketing, photography, psychology, or other approved courses.

Electives	3
Total	120

CLOTHING AND TEXTILES MAJOR – DOUBLE SPECIALIZATION

This double specialization prepares the student for professional positions calling for either apparel design or retailing backgrounds, and for professional responsibilities calling for a blend of these.

General Education Requirements.....	46
GEB 202, 211.....	6
Requirements for Major in Clothing and Textiles with Double Specialization	102
Vocational Education Studies 336, 337, 338a-3, 338b-3, 339, 340, 341-1, 342, 343, 344, 345, 346, 347, 348, 349, 350, 439 or 449, 440, 442, 444, 445, 446, 448	69
Accounting 210 or 220	3
Management 301 or 304 or Psychology 320 or 323.....	3
Art 100a, 110, 206, and art history.....	12
Computer Information Processing 229 or Computer Science 202 or 212 or Vocational Education Studies 306	3
Marketing 304, 363, 401, plus 3 additional hours.....	12
Total	148

Minor

A minor in clothing and textiles is intended to provide background that will assist students in pursuing their career goals or other interests. A minor in clothing and textiles must have approval of the program coordinator. At least 16 hours of clothing and textiles courses are required as follows:

335 or 345	2-4
336, 337, or 347.....	6
Other clothing and textiles courses.....	6-8

VOCATIONAL EDUCATION STUDIES (Major, Courses)

Students majoring in vocational education studies may specialize in business education; education, training and development; industrial education; health occupations education; or home economics education. A major in general agriculture may be completed in the College of Agriculture.

Bachelor of Science Degree, College of Education

VOCATIONAL EDUCATION STUDIES MAJOR – BUSINESS EDUCATION SPECIALIZATION

The business education specialization prepares persons for teaching, supervisory, and leadership roles in secondary schools, private business schools, colleges and industry in the areas of vocational and pre-vocational business education and in-service training. Students select one of the following teaching areas: accounting, data processing, general business/consumer education, marketing, and office. The Capstone Program, explained in Chapter 4, is available to qualified students. Business education students may take no more than 25% of their program in College of Business and Administration courses. The program below prepares students for secondary teaching certificates.

General Education Requirements..... 46
Including GEB 114, 202 and 301, GED 101 and 102, and one additional English course, GEC 213 GEE 201, 2 hours of physical education activity courses

Requirements for Major in Vocational Education Studies..... 50

Vocational Education Studies Core..... 9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307

Business Education Specialization Requirements..... 41

Accounting 210 or 220 3

Management 170 or 304..... 3

Office Systems and Specialties 111..... 3

Vocational Education Studies 302, 310, 498b 7

Preparation of one of the following business teaching areas:

Accounting
Accounting 230, 240, 321, 322, 331
Computer Information Professing 229 or Computer Science 212
Plus either two supplemental teaching areas or one supplemental teaching area and completion of vocational program coordination requirements

Data Processing
Computer Information Processing 102, 131
Three of the following: Computer Information Processing 111, 121, 222, 229, 232, 323 or Computer Science 212
Plus either two supplemental teaching areas or one supplemental teaching area and completion of vocational program coordination requirements

General Business and Consumer Education
Management 350
Marketing 304
Economics 215
Finance 280 or 370
Consumer Economics and Family Management 341
Plus either two supplemental teaching areas or one supplemental teaching area and completion of vocational program coordination requirements

Marketing
Marketing 304, 305, 363, 438
Finance 280 or 370
Plus one supplemental teaching area and completion of vocational program coordination requirements

Office
Vocational Education Studies 402, 404
Office Systems and Specialties 101d, 106, 107, 109, 230, 233
Plus either two supplemental teaching areas or one supplemental teaching area and completion of vocational program coordination requirements

Professional Education Requirements..... 25
See Teacher Education Program, Chapter 3.

Total 121

- Supplemental Teaching Areas in Business Education:
- 1. Accounting and Bookkeeping: Accounting 230.
 - 2. Data Processing: Computer Information Processing 102, 131, one of the following: Computer Information Processing 111, 121, 222, 229, 323 or Computer Science 212.
 - 3. General Business/Consumer Education: two of the following: Consumer Economics and Family Management 340, 341, GEB 205.
 - 4. Business Law: Finance 280, 370.
 - 5. Marketing: Marketing 304, 363, 438.
 - 6. Shorthand and Transcription: Vocational Education Studies 304, Office Systems and Specialties 132.
 - 7. Typewriting: Office Systems and Specialties 113.
- Credit from Vocational Education Studies 259 may be used in lieu of the business education requirements.

Cooperative Education Program Teaching Requirements: Vocational Education Studies 472 and 473 plus the equivalent of one year of work experience from Vocational Education Studies 258 or 395.

VOCATIONAL EDUCATION STUDIES MAJOR – EDUCATION, TRAINING AND DEVELOPMENT SPECIALIZATION

The purpose of the education, training, and development specialization is to prepare technically trained persons for training and development positions in education, business, industry, labor, government, and the military.

<i>General Education Requirements</i>	46
<i>Requirements for Major in Vocational Education Studies</i>	75
Vocational Education Studies Core.....	9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307	
Education, Training and Development Specialization Requirements.....	66
Vocational Education Studies 258 and/or 395, 259 or prescribed courses to complete technical specialty, 460, 468, 469, 474, 495 or 496	63
Electives.....	3
To include 3 semester hours in courses outside the department.	
<i>Total</i>	121

VOCATIONAL EDUCATION STUDIES MAJOR – HEALTH OCCUPATIONS EDUCATION SPECIALIZATION

The health occupations education specialization prepares persons with allied health and nursing specialty backgrounds for teaching, supervisory, and leadership roles in health occupations education in secondary schools. The program below prepares students for secondary teaching certificates. In addition to receiving the secondary school certification, persons completing this program are qualified to teach in vocational schools, industry, private schools, and community colleges.

<i>General Education Requirements</i>	46
Including GEB 114, 202 and 301, GED 101 and 102, and one additional English course, GEC 213, GEE 201, 2 hours of physical education activity courses	

<i>Requirements for Major in Vocational Education Studies</i>	50
Vocational Education Studies Core	9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, Educational Psychology 307	
Health Occupations Education Specialization Requirements.....	41
Vocational Education Studies 258 and/or 395	10
Vocational Education Studies 259 or prescribed courses to complete technical specialty	25
Vocational Education Studies 450, 460e.	6
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Total</i>	121

Cooperative Education Program Teaching Requirements: Vocational Education Studies 472 and 473 plus the equivalent of one year of work experience from Vocational Education Studies 258 or 395.

VOCATIONAL EDUCATION STUDIES MAJOR – HOME ECONOMICS EDUCATION SPECIALIZATION

(Educational Services Option)

This program prepares students for positions in agencies and businesses which provide educational services. Such tasks as developing informational materials, working with individual customers or clients, coordinating conferences and demonstrating products might be included in the job description for such positions.

<i>General Education Requirements</i>	46
Including GEB 108, 202	
<i>Requirements for Major in Vocational Education Studies</i>	75
Vocational Education Studies Core	9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307	
Home Economics Education Specialization Requirements	66
Curriculum and Instruction 237 and 227 or GEB 262	6
Consumer Economics and Family Management 331, 350, 340 or GEB 205	9
Food and Nutrition 215 or GEE 236.....	2
Vocational Education Studies 320, 338a, 335 or 345, 431, and 497f-6	16-18
Restricted Electives	19
To be selected from the following:	
Curriculum and Instruction 327, 337	
Vocational Education Studies 337, 340, 342, 343, 347	
Consumer Economics and Family Management 320, 330, 480	
Food and Nutrition 156, 256, 335, 356	
Vocational Education Studies 302, 398f, 433, 464, 474, 490f, 494f	
Guided Electives	12-14
<i>Total</i>	121

(Extension Option)

This program prepares students for positions as home advisers, 4-H advisers, and with further training, extension specialists.

<i>General Education Requirements</i>	46
Including GEB 108, 202, GED 102, 153; 2 hours of physical education activity courses	
<i>Requirements for Major in Vocational Education Studies</i>	62-66
Vocational Education Studies Core	9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307	
Home Economics Education Specialization Requirements	53-57
Chemistry 140a	(3) + 1
Curriculum and Instruction 237 and 227 or GEB 262	6
Consumer Economics and Family Management 330, 331, 350, 340 or GEB 205	12
Food and Nutrition 215 or GEE 236, 156 or 256, 335	7-9
Vocational Education Studies 320, 324, 325, 336, 338a, 340 or 348 or elective, 335 or 345, 431.....	24-26
Speech Communication 221.....	3
<i>Electives</i>	8-12
<i>Total</i>	120

(Teaching Vocational Home Economics Option)

This program prepares students to teach consumer education, homemaking as an occupation, and occupational home economics in schools operating under the provisions of federal vocational education legislation.

<i>General Education Requirements</i>	46
Including GEB 114, 202 and 301, GED 101 and 102, and one additional English course, GEC 213, GEE 201, 2 hours of physical education activity courses	
<i>Requirements for Major in Vocational Education Studies</i>	56-58
Vocational Education Studies Core	(6) + 3
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307 (Vocational Education Studies 463 and Educational Psychology 307 will be waived for students completing the Professional Education Requirements)	
Home Economics Education Specialization Requirements	53-55
Chemistry 140a	(3) + 1
Curriculum and Instruction 227, 237, 318, 327, elective course-3	16
Vocational Education Studies 320, 322, 335, 338b, 348, 431.....	15
Consumer Economics and Family Management 330, 331, 340, 350, 351	14
Food and Nutrition 215 or GEE 236, 156 or 256, 335	7-9
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Total</i>	127-129

Credit from Vocational Education Studies 258 or 259 may be substituted for six semester hours in each of two areas (child and family, clothing and textiles, consumer economics and family management, food and nutrition) of the home eco-

nomics requirements. There is no substitution for Curriculum and Instruction 227, 237, 327, Consumer Economics and Family Management 340 or Food and Nutrition 215.

Cooperative Education Program Teaching Requirements. Vocational Education Studies 472 and 473 plus the equivalent of one year of work experience from Vocational Education Studies 258 or 395.

VOCATIONAL EDUCATION STUDIES MAJOR – INDUSTRIAL EDUCATION SPECIALIZATION

Industrial education teaching concerns specialized instruction in a wide variety of vocational-technical occupations including industrial-oriented and other occupations. The program below prepares students for secondary teaching certificates. In addition to being certificated to teach in secondary high schools or vocational schools, graduates may also teach in industry, private schools, and community colleges.

<i>General Education Requirements</i>	46
Including GEB 114, 202 and 301, GEC 213, GED 101 and 102, and one additional English course, GEE 201, 2 hours of physical education activity courses	
<i>Requirements for Major in Vocational Education Studies</i>	52
Vocational Education Studies Core	9
Three of the following: Vocational Education Studies 306, 363, 384, 462, 463, 466, or Educational Psychology 307	
Industrial Education Specialization Requirements	43
Vocational Education Studies 258 and/or 395	15
Vocational Education Studies 259 or prescribed courses to complete technical specialty	25
Vocational Education Studies 460g	3
<i>Professional Education Requirements</i>	25
See Teacher Education Program, Chapter 3.	
<i>Total</i>	123

Cooperative Education Program Teaching Requirements: Vocational Education Studies 472 and 473 plus the equivalent of one year of work experience from Vocational Education Studies 258 or 395.

Minor

A minor in vocational education studies consists of a minimum of 20 hours. Minors are planned by the student and adviser within each of the five specializations. Twenty-four semester hours are required to meet Illinois certification requirements for teaching.

Courses

258-2 to 30 Occupational Experience. Credit for documented experience in a teachable occupation or family of occupations. Prerequisite: 12 hours of C or better at Southern Illinois University at Carbondale.

259-2 to 48 Occupational Subjects. Credit for documented occupational study in accredited and selected other programs. Prerequisite: 12 hours of C or better at Southern Illinois University at Carbondale.

302-3 Communications in Business. Principles and practice in written and oral business communications. Included is the development of ability to use words and correct grammatical construction in oral and written business expression; the learning of the principles of planning, organizing, writing, and summarizing effective communications; and the refinement of listening skills.

304-3 Analysis of Alternative Shorthand Systems. Development of high-level dictation and transcription skills and knowledge in one shorthand system; the learning of the theory of one or more additional shorthand systems, either alphabetic or symbolic. Prerequisite: Office Systems and Specialties 132 or equivalent.

306-3 Introduction to Computers and Information Systems. An overview of computer technology and the uses of information systems in education and the business world. Hands-on applications with business and educational software is stressed. An introduction to programming languages is incorporated using the BASIC language.

310-3 Introduction to Business Education. An introduction to teaching business in public and private schools, and business/industry training. Emphasis is on curriculum structures, philosophical bases, student characteristics, employment requirements, and career opportunities.

320-2 Home Economics as a Profession. A social, psychological, and philosophical interpretation of home economics in today's world. Overview of career areas, the homemaker-professional worker, and vocational and occupational home economics programs.

321-2 Methods of Teaching for Non-Teaching Majors. Educational principles for use in situations mostly outside of the formal classroom. Selection and organization of materials. Practice in using a variety of techniques and teaching aids.

322-2 Curriculum in Home Economics. Curriculum planning for the total home economics program. Includes management of student organizations and business of a department. Prerequisite: Education 315.

324-4 History, Development and Principles of Extension Work. The history and philosophy of cooperative extension. Principles and practice of organizing and administering extension work in home economics. Offered alternate years. Transportation expense for field trips: approximately \$5.

325-4 Field Experience. Six weeks of observing and assisting a county home economics extension adviser. Supervised experiences in various phases of extension work. Student must provide for own living and travel expenses. Prerequisite: 324.

327-3 Home Economics for Men (and Women). A survey of the areas of home economics; child care and personal, family, and community relations; economics and management of personal and family resources; food, nutrition, clothing selection and buying; financial management, consumer education; and protection. Emphasis on life skills as reflected in needs of students. Field trip and practicum experiences. Cost: \$2 for supplies.

335-2 Basic Textiles. Emphasis on recognition of fabrics and weaves, suitability, care, and maintenance, especially household textiles. Credit cannot be earned for 335 after receiving credit for 345.

336-3 Survey of Clothing. Multidisciplinary overview of study of clothing. Course will include aesthetic, cultural, economic, psychological, social, and anthropological aspects.

337-3 Clothing for Consumers. Clothing needs of individual family members within the context of developmental stage, life style, and societal setting; functional and fashion-motivated needs considered; clothing budgeting. Prerequisite: 336.

338A-3 Clothing Construction – Beginning. Basic clothing construction laboratory. Beginning skills: use of machine, fabric selection and preparation, pattern alteration, garment construction.

338B-3 Clothing Construction – Intermediate. Intermediate skills in fitting, construction, and pattern and fabric usage. Prerequisite: 338a.

339-1 to 12 (1 to 6 per semester) Field Experience. Supervised learning experience in approved business or industry. Intended for majors in clothing and textiles only. Prerequisite: consent of chairperson.

340-3 Flat Patternmaking and Drafting. Fitting basic tissue of muslin and making sloper; making styles through flat pattern manipulation and drafting; testing and refining patterns to provide perfect fit. Prerequisite: 338b.

341-3 (1, 1, 1) Fashion Retailing Seminar. Comparison of practices drawn from students' work experiences and information from readings or resource persons. Individual and group projects. (a) Retail theft, (b) personnel, (c) introduction to visual merchandising, especially in-store and window display. Emphasis on artistic elements and motivational strategies of displays. Prerequisite: 100 hours approved retailing experience.

342-3 Draping. Application of design principles to dress; making garment form; refining patterns draped in muslin. Garments constructed of fashion fabric. Prerequisite: 340.

343-3 Apparel Accessories. Product knowledge, levels of quality, setting points, and care of plastics, leather goods, furs, jewelry, cosmetics.

344-3 Fashion Illustration. Original designs for male and female apparel and accessories using various media. Designs based on various sources of inspiration. Prerequisite: Art 100A.

345-4 Textiles. Presentation of aspects of textiles having an influence on properties and performance of textile and products such as apparel and home furnishings. Characteristics of fibers, yarns, and fabrics will be discussed and other factors such as manufacturing methods of and legal constraints on the textile industry will be mentioned. Lecture and laboratory.

346-3 Display and Exhibition Design. Application of design principles and use of graphics in display. Studies in two- and three-dimensional display and exhibition; model-making techniques. Incidental expenses for supplies and materials.

- 347-3 Fashion Motivation.** Psychological motivation for wearing clothing; societal functions of clothing, cultural differences in dress. Prerequisite: 336.
- 348-3 Tailoring.** Basic principles of tailoring applied to coat or suit. Prerequisite: 338B or equivalent.
- 349-3 Fashion Merchandising.** Functions and responsibilities of the fashion merchandiser, considering various retail establishments. Professional course for retailing majors. Prerequisite: 350 and Marketing 304.
- 350-3 Retail Fashion Buying.** Responsibilities of a fashion retail buyer. Includes information sources, determination of consumer needs, characteristics of a buyer. Prerequisite: 336 and 100 hours approved retailing experience.
- 363-3 Career Education.** An examination of the historical, social, economic, and psychological foundations for career education. A typical career education curriculum model will be presented. Instructional materials and methods for facilitating career development will be demonstrated.
- 364-3 Leadership of Youth and Peer Groups.** (Same as Agricultural Education and Mechanization 364.) Identification and discussion of the role of organizations, both structured and unstructured. Identification and development of qualities of leadership.
- 381-4 (2, 2) Instructional Support for Training Systems Development.** (a) Identifying, assessing, and utilizing instructional resources for vocational education and training programs. (b) Developing training prospecti and funding proposals in accordance with agency or corporate specifications.
- 384-3 Adult Education in Vocational, Occupational, and Career Education.** Planning and preparing for adult education programs. Includes review of characteristics of clientele, financial support, program development.
- 395-1 to 24 Occupational Internship.** Special educational activities are based upon required occupational skills and knowledges and are related to each student's academic program and career objective. May include independent study. Hours and credit arranged by coordinator. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: consent of coordinator and employment in a University-approved position.
- 398-1 to 3 Special Problems.** Independent study for qualified students. (a) Agricultural education, (b) business education, (c) clothing and textiles, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education, (h) vocational education. Prerequisite: consent of instructor.
- 402-3 Introduction to Office Information Systems.** An introduction to the integrated office concept investigating the functions of data processing, records management, electronic mail, word processing, and reprographics.
- 404-3 Analysis of Office Systems.** An investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of words, office personnel and their responsibilities, and the role of office functions in the total business society. Prerequisite: 402.
- 405-3 Office Management.** Principles of management applied to office problems. Emphasis on the role of the office in business management; office organization; physical facilities and layout of office; office services, procedures, standards, and controls; records management.
- 407-3 Records Administration.** An introduction to methods and systems of controlling, storing, retrieving, and disposing of records. Application of principles of records administration to medical, legal, educational, industrial, and governmental records. Techniques needed to design and implement an operationally efficient records management program.
- 408-3 Information Administration Technologies.** An investigation of the various technologies and their use to efficiently control, store, retrieve, and communicate information. Methods and techniques needed to design and implement various technological information systems will be explored as they apply to the development of information management programs. Prerequisite: 407.
- 409-3 Applications of Integrated Software/Education.** (Same as Agricultural Education and Mechanization 418.) Design of agricultural or educational applications of integrated software. Spreadsheet, database, wordprocessing, and graphic and communications software will be applied to the solution of business problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.
- 410-2 Principles and Problems of Business Education.** A study of the fundamentals of business education; its relation to business, to general education, and to vocational and career education; its history, current status, and trends; special emphasis on objectives and curriculum problems.
- 415-7 (1, 1, 1, 1, 1, 1, 1) Instructional Methods for Business Education.** Specific methods, techniques, and material applied to business education areas of (a) accounting, (b) basic business, (c) computer systems, (d) keyboard, (e) information processing, (f) marketing, (g) shorthand. Prerequisite: 310, 462 or Education 315.
- 428-3 Home Economics for Elementary Teachers.** Identification and development of meaningful home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. Possible expense for materials to use in classroom demonstrations \$5 to \$8.

439-3 Historic Clothing: Western Cultures. Development of clothing in western civilization to the present time. Consideration of social, economic, and aesthetic factors, and technical innovations influencing clothing. Prerequisite: 347 or equivalent.

440-3 Experimental Custom Apparel Designing. Development of apparel to meet aesthetic, structural, and functional needs; problem solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials, environment. Prerequisite: 342, 344.

442-3 Clothing Economics. Factors of production, distribution, and consumption influencing clothing industry; management of these factors in clothing related businesses; place of clothing industry in national and international markets. Field trip. Prerequisite: GEB 211 or Economics 214.

444-3 Mass-Market Apparel Designing. Design of a line to specifications; drafting; toiles, mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 342 and 344.

445-3 Textile Product Testing. Exposure to and experience with methods used by retailers and manufacturers of textile items to measure performance and maintain quality. Standards, sampling, and replication requirements and interpretation of results. Prerequisite: 345 or equivalent.

446-3 Professional Practices in Fashion Design. Business principles of apparel design, including systems, forms, and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Not for graduate credit. Prerequisite: 342 and 344.

448-3 Custom Tailoring. Individualizing, fitting, and contouring of male or female garment for customer from commercial pattern or from original pattern. Organization of work and time. Not for graduate credit. Prerequisite: 348 or equivalent.

449-3 Historic Clothing: Non-Western Cultures. Traditional dress in non-western cultures. Aesthetics, symbolism, and uses of costume in the culture; effect of clothing on economy. Cultures studied may vary with each offering. Offered alternate years. Prerequisite: junior standing.

450-3 Introduction to Health Occupations Education. An orientation course for health occupations education. Provides information on the current and historical directions in health occupations education, resources for teaching and training of prospective students; program articulation and career mobility; the role of professional and student health organizations; state and federal legislation/regulations in health occupations education; licensure and certification requirements and their impact on education; and health occupations career clustering within Illinois' vocational system. Prerequisite: 460 and 462.

460-3 Occupational Analysis and Curriculum Development. The first of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Includes analyzing occupations and jobs, specifying objectives, and developing curriculum. (a) Agricultural education, (b) business education, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education.

462-3 Teaching Methods and Materials. The second of a two-course sequence presenting a systems approach to curriculum development and instructional methods utilized in vocational and occupational education. Concerned with instructional methods and materials unique to vocational and occupational education. (a) Agricultural education, (b) business education, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education.

463-3 Assessing Vocational Student Progress. Development and use of evaluation instruments to assess occupational student growth. Use of systems approach to course design, criterion-referenced and norm-referenced objectives, and four taxonomies of educational objectives in development of written tests, laboratory and work station performance tests, and attitude measures. Data are used for evaluation of student progress and program modification. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in teaching special needs learners. Affective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Principles and Philosophies of Vocational Education. Historical and philosophical foundations of vocational education. The nature and role of vocational education in preparing people for the world of work.

468-3 Education/Labor Force Linkages. Examines education/labor linkages. Particular attention given to the following areas: overcoming barriers to the linkage process; developing effective lines of communication; resource sharing; conducting joint problem solving with other agencies and individuals within the community; and jointly developing and providing programs and services.

- 469-3 Training Systems Management.** Principles and techniques of managing training organizations. Design, promotion, conduct, and evaluation of training programs in accordance with needs, restraints, and resources in corporate and government settings. Prerequisite: 460 and 462.
- 472-3 Organizing Cooperative Vocational Education.** Introduction to cooperative vocational education including history, rationale, legislative basis, and goals and objectives. Investigation into the competencies required for developing programs, public relations, and evaluation of cooperative vocational education. Introduction of student selection and management of cooperative vocational education. Fulfills three semester hours of six required for State of Illinois certification.
- 473-3 Coordinating Cooperative Vocational Education.** Overview of cooperative vocational education. Investigation into the competencies required for the establishment, implementation, and coordination of cooperative vocational education to include selection and maintenance of training stations, student placement, related instruction in cooperative vocational education, and the management of cooperative vocational education programs. Fulfills the remaining three semester hours of the six required for State of Illinois certification. Prerequisite: 472.
- 474-3 Individualized Vocational Instruction.** Study of the theory, characteristics, appropriateness, and evaluation techniques of individualized programs. Will include a review of the current state of individualized instruction in education for work programs.
- 478-3 Contemporary Principles in Management of Technical Education Programs.** Study of contemporary approaches to the teaching of technical education including developing an understanding of the philosophical base, identifying a curriculum development procedure in teaching strategies, and locating resources and educational aides for the Illinois plan for industrial education. Prerequisite: junior standing.
- 484-3 Adult Vocational and Technical Education.** A study of adult vocational and technical education as offered in a variety of educational settings. Major topics include organization, funding, teaching, student characteristics, and evaluation. Prerequisite: consent of adviser.
- 486-3 (1, 1, 1) Post-Secondary Vocational-Technical Teaching.** Contemporary approaches to teaching vocational-technical education in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations. (b) Situations and issues which arise in professional education sessions. (c) Interpersonal relations in teaching and other educational assignments. Not for graduate credit.
- 488-3 Initiating Vocational Student Placement and Follow-Up.** Planning, implementing, operating, and evaluating school-based placement systems for vocational education.
- 490-1 to 4 Readings.** Supervised reading for qualified students. May include independent study. (a) Agricultural education, (b) business education, (c) clothing and textiles, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education, (h) vocational education. Prerequisite: consent of instructor and program coordinator.
- 491-1 to 5 Advanced Occupational Skills.** Modern occupational practice in selected fields. For experienced professionals seeking advanced techniques in specialized areas of vocational education. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: intermediate level study in the specialty.
- 494-1 to 4 Workshop.** Study of current issues of importance to vocational, occupational, and career education teachers, supervisors, and administrators. Emphasis of each workshop will be identified in each workshop announcement. (a) Agricultural education, (b) business education, (c) clothing and textiles, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education, (h) vocational education.
- 495-2 to 12 Teaching Internship.** Internship teaching in vocational programs in approved centers. The intern teacher will follow the program of the supervising teacher in both regular and extra class activities. May include independent study. (a) Agricultural education, (b) business education, (c) home economics education, (d) industrial education, (e) health occupations education. Prerequisite: 18 months full-time equivalent of documented or nine months full-time equivalent of supervised experience or a combination.
- 496-2 to 12 Professional Internship.** Research or curriculum development or program management at approved education or training sites. The intern will follow the program of the supervising professional in regular and related activities. Not for graduate credit. Prerequisite: 18 months full-time equivalent of documented or nine months full-time equivalent of supervised work experience or a combination.
- 497-1 to 6 Practicum.** Applications of vocational, occupational, and career education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialists. (a) Agricultural education, (b) business education, (c) clothing and textiles, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education, (h) vocational education. Prerequisite: twenty hours in specialty.
- 498-1 to 5 Special Problems.** Assistance and guidance in the investigation and solution of vocational, occupational, or career education problems. May include independent study. (a) Agricultural education, (b) business education, (c) clothing and textiles, (d) education, training and development, (e) health occupations education, (f) home economics education, (g) industrial education, (h) vocational education. Prerequisite: consent of instructor and program coordinator.

Women's Studies (Minor)

A women's studies minor is interdisciplinary and designed to enrich and extend a student's major field of sharing insights gained from the study of women or women's issues. Course work can be selected to reflect individual student interests and enhance the major by contributing knowledge, understanding, and sensitivities helpful to students in both the university and work settings.

Women's studies is an appropriate minor for many undergraduate majors as well as for students planning graduate or professional studies. For example, people's orientation toward their work may be affected by an historical understanding of the ways women have been treated by the courts, the health care professions, the educational system, employment, religion, literature, or the arts.

Because it is interdisciplinary, the women's studies minor should reflect academic work in both the arts and humanities and the natural and social sciences.

Minor

Minors must be approved by the coordinator of women's studies in order to assist students in developing a coherent program that meets their individual interests. The minor requires 18 semester hours of credit, 15 of which must be in women's studies courses, while the remaining 3 hours may be selected from a special interest or related course. Schedules of classes contain listings of relevant courses. The minor must include 221 and 492. Students are urged to discuss and plan their minors with the coordinator of women's studies or with a faculty member who teaches women's studies courses.

Courses

- 221-3 The Sexes in the Modern World: The Social Science Perspective.** (See Sociology 223)
- 225-3 Women in Literature.** (See English 225)
- 260-3 Greek Civilization.** (See GEC 230)
- 286-3 Marriage and Family Living.** (See Curriculum and Instruction 227)
- 303-3 Women and Religion.** (See Religious Studies 303).
- 326-3 Women in Communications and Fine Arts.** (See Communications and Fine Arts 397, Section B)
- 341-3 Psychology of Women.** (See Psychology 333)
- 347-3 Women in American History.** (See History 368)
- 348-3 Women in European Society 1600 to Present.** (See History 324)
- 352-3 Images of Women in French Literature.** (See French 300)
- 364-3 Classical Mythology.** (See GEC 330)
- 427-3 Women in the Visual Arts.** (See Art 457)
- 442-4 Sociology of Gender.** (See Sociology 423)
- 445-3 Women and the American Political Process.** (See Political Science 429)
- 454-3 to 6 Topics in Women's Literature.** (See English 496)
- 456-3 Philosophical Perspectives on Women.** (See Philosophy 446)
- 463-2 Greek Literature in Translation.** (See Classics 405)
- 476-3 Women and the Criminal Justice System.** (See Administration of Justice 460)
- 488-3 Women in the Home and Labor Market.** (See Consumer Economics and Family Management 480)
- 490-1 to 6 Readings.** Supervised readings in selected content areas of women's studies. Prerequisite: consent of instructor and women's studies coordinator.
- 491-1 to 6 Special Topics.** Concentration on a topic of interest not offered through the regular course listings. Prerequisite: consent of instructor and women's studies coordinator.
- 492-3 to 6 Seminar in Women's Studies.** A synthesizing experience required of seniors completing a minor in women's studies. Activity may include, but is not limited to, the preparation and presentation of a scholarly paper or the conduct of a research project. Prerequisite: 221 or 222, senior standing, and consent of women's studies coordinator.
- 493-2 to 6 Individual Research.** Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report which is filed with the coordinator of women's studies. Prerequisite: consent of instructor and coordinator of women's studies and senior standing.

494-1 to 6 Practicum. Supervised practical experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general content areas recognized in the women's studies program. Prerequisite: consent of instructor and coordinator of women's studies.

Zoology (Department, Major, Courses)

A major in zoology is an appropriate beginning for those planning a career that includes teaching and research in zoology, conservation, fisheries management and wildlife management, environmental monitoring, or the practice of medicine, dentistry, and veterinary science.

Students majoring in zoology are required to develop an individualized curriculum by consulting with the director of undergraduate studies in zoology and an appropriate faculty member of the department. The curriculum must include: a year of chemistry or physics, one course in mathematics beyond the College of Science requirement or a course in computer science, Biology 305 and 307, Zoology 220a,b 300 (or equivalent, i.e., Biology 309), Zoology 482, and at least 18 additional semester hours of electives in zoology.

Courses offered in the General Education program and Zoology 214 will not be accepted as electives. A minimum of 37 semester hours of biology and zoology must be completed for the major.

Bachelor of Arts or Bachelor of Science Degree, College of Science

<i>General Education Requirements</i>	46 ¹
<i>Supplementary College of Science Requirements</i>	11-13
Foreign Languages	(4) + 4
Mathematics 108 and 109 or 111 or 140	(3) + 1-3
Physical Science (Not General Education)	6 ²
<i>Requirements for Major in Zoology</i>	40-44 ³
Biology 305, 307	6
Zoology 220a,b, 300 (or its equivalent), 482	13
Elective Zoology courses	18
Chemistry or Physics (Not General Education)	(6)+0-2 ⁴
A course in Mathematics (beyond Mathematics 108 and 109 or 111), or in Computer Science	3-5
<i>Electives</i>	17-23
<i>Total</i>	120

¹The 46 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for General Education courses.

²May apply toward General Education if approved substitutes are taken.

³Zoology requirements will satisfy biological science requirements for the College of Science.

⁴Satisfies physical science requirements for the College of Science.

Bachelor of Science Degree, College of Education

Degree taken in the College of Education must satisfy all requirements of that college for the Bachelor of Science degree. The requirements for the major in zoology are the same in both colleges, except that to meet teacher certification requirements a minor in botany is required. Curriculum and Instruction 468 is also required. College of Education professional education and other certification requirements may be found in the section of this catalog titled Curriculum and Instruction. See Teacher Education Program, Chapter 3.

Minor

A minor in zoology consists of 16 hours, including 220a,b, and 482. Zoology

courses acceptable for majors as well as Biology 305, 306, 307, 308, and 309 may be used to complete the 16-hour minimum requirement; no General Education courses can be included. Courses used to satisfy degree requirements for a major or another minor cannot be used for the minor in zoology.

Honors Program

An honors program is available to those juniors and seniors in zoology who maintain a grade point average of 3.25 or better, overall and in the major. To enroll in Zoology 493, the student must complete a departmental form that requires the project title; a description of the proposed project; and the signatures of the student, the faculty adviser, and the chairperson of the department. The student must complete six hours of 493 with a grade of *B* or better, file with the department a final report on the research, and present the results at a public seminar in order to graduate with departmental honors in zoology. At the time of graduation, an indication of participation in the program is made on the diploma and transcript for students who complete the requirements. Concurrent participation in the University Honors Program is encouraged. Students receiving credit for Zoology 493 may not apply Zoology 393 hours toward the major.

Courses

Students enrolled in zoology courses may incur field or laboratory expenses of \$5 to \$25.

212-2 Birding. Bird watching for pleasure. Consideration of identification, songs and ecology of birds, information on bird organization, equipment, and techniques. Credit may not be used toward a major in zoology. Two lectures per week. Offered Fall term.

214-3 Human Heredity. Principles of heredity as related to humans, with emphasis on the affects of environment on the biological inheritance.

220-8 (4, 4) Diversity of Animal Life. Diversity and its taxonomic treatment in animals, emphasizing structure, function, life cycles, behavior, and phylogeny. (a) Invertebrates, (b) Vertebrates. Two lectures and two 2-hour laboratories per week. Need not be taken in a,b sequence. Fall, Spring, Summer. Prerequisite: GEA 118 or strong background in high school biology recommended.

300-4 Vertebrate Embryology. Main features of embryonic and fetal development from fish to humans. Two lectures and two 2-hour laboratories per week. Offered Fall and Spring terms. Prerequisite: 220b.

305-2 Genetics Laboratory. Experimental methods in applying basic principles of genetics. Monogenic and digenic inheritance, sex-linkage, gene interaction, linkage and chromosome mapping, mutation, artificial and natural selection, gene frequencies, and genetic drift. Two 2-hour laboratories per week. Offered Spring term. Prerequisite: Biology 305, or concurrent enrollment.

309-3 Elementary Cell Biology. Introduction to structure, function, and natural history of major cell types. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

316-3 Insect Pests and Their Control. Classical and economic entomology including morphology, physiology, and taxonomy. Life history, damage, and control of principal injurious insects will be discussed. Two lectures and one 2-hour laboratory per week. Credit may not be used toward a major in zoology. Offered Fall term. Prerequisite: GEA 118 or equivalent.

318-5 Comparative Vertebrate Anatomy. The structure of vertebrate organ systems. Two lectures and three 2-hour laboratories per week. Offered Fall and Spring terms. Prerequisite: 220b.

351-4 Ecological Methods. Basic ecological field techniques for analysis of community structure and functional relationships. Two 4-hour laboratories per week. Offered Spring term. Prerequisite: 220a,b and Biology 307.

390-1 to 3 Internship. Supervised off-campus training (as in a laboratory or zoological institution) may be counted for credit in zoology. Must receive approval from a zoology faculty supervisor who will evaluate the performance. A proposal must be filed with the director of undergraduate studies. Prerequisite: major in zoology.

393-1 to 3 Individual Research. Research on zoological problems. Credit may not be used toward a minor in zoology. Some cost may be borne by the student. Offered Fall, Spring, and Summer terms. Prerequisite: minimum of 3.00 GPA (*A* is 4.00), senior standing, and approval by the proposed faculty supervisor.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: consent of instructor, 300 or advanced standing in Biology.

401-3 Developmental Neurobiology. This course presents a survey of the basic principles that underlie the development of the nervous system, including an examination of the important questions and issues currently being studied by neuroembryologists. Prerequisite: advanced standing in biology/science or consent of instructor.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Offered Fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

404-3 Evolutionary Biology. Concepts and principles of modern evolutionary theory at a level appropriate for upper-division majors and graduate students in any biological science. Prerequisite: 220a,b or equivalent and Biology 305 or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rules of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a, b and consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

407-4 Parasitology. Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

408-3 Herpetology. Taxonomic groups, identification, morphology, and natural history of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220b.

409-4 Vertebrate Histology. Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 10 to 12 semester hours of biological science.

413-6 (3, 3) The Invertebrates. (a) Structure, phylogeny, and habitats of the lower invertebrates through lophophorates and deuterostomes except echinoderms. (b) Structure, phylogeny, and habitats of the higher invertebrates including echinoderms, mollusks, annelids, and arthropods. Three 2-hour laboratories per week. Offered Spring term, (a) in alternate even years; (b) alternate odd years. Prerequisite: 220a.

414-4 Freshwater Invertebrates. Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

415-3 Limnology. Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 220a.

421-4 Histological Techniques. Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Offered Fall term. Prerequisite: 10 semester hours of biological science.

426-3 Comparative Endocrinology. Comparison of mechanisms influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Include ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

460-2 Upland Game Birds. Identification, life history, ecology, and management. One lecture and one 2-hour laboratory per week; there will be up to three Saturday field trips. Offered Spring term. Prerequisite: 220b or consent of instructor.

461-3 Mammalogy. Taxonomic characteristics, identification, and natural history of mammals. Two one-hour lectures and one 2-hour laboratory per week. Offered Spring semester. Prerequisite: 220b.

462-3 Waterfowl. Identification, life history, ecology, and management. Two lectures and one 2-hour laboratory per week; there will be three or four Saturday field trips. Prerequisite: 220b or consent of instructor.

463-3 Game Mammals. Natural history and management. Two lectures and one 2-hour laboratory per week. Prerequisite: 220b or consent of instructor.

464-3 Wildlife Administration and Policy. Responsibilities of private, state, and federal natural resources management agencies. Legal and political processes in areas of wildlife and natural resources. Three lecture per week. Offered Spring term. Prerequisite: consent of instructor.

465-3 Ichthyology. Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

466-3 Fish Management. Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations, and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 10 hours of biological science.

467-3 Ornithology. Classification and recognition of birds and the study of their songs, nests,

migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

468-6 (3, 3) Wildlife Biology. Basic concepts and techniques for managing wildlife populations and their habitats. A basic ecology course is desirable as background for this course. (a) Principles. Three 1-hour lectures per week. (b) Techniques. Two 3-hour laboratory sessions per week, four of which may be field trips on Saturdays. Offered Fall term. Prerequisite: 10 semester hours of biological science; concurrent enrollment in 468a and 468b desirable.

471-3 Entomology. Structure, classification, and life histories of insects. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

473-3 Aquatic Entomology. Structure, classification, and biology of aquatic insects. One lecture and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered Fall semester. Prerequisite: one year of biological science or permission of instructor.

480-3 to 5 Research Methods in Animal Behavior. Skills relevant to doing research in animal behavior. Guided self-instructional format, with two 3-hour periods scheduled weekly, primarily as question-answer and evaluation sessions. Offered Spring semester. Prerequisite: at least B work in 478 or permission of instructor.

482-1 Zoology Seminar for Seniors. Each student reports on a selected topic, using original scientific literature, and the report is discussed by the class. One meeting per week. Offered Fall, Spring, Summer terms. Not for graduate credit. Prerequisite: senior standing or 24 hours of life science completed. Mandatory Pass/Fail.

485-2 to 4 Special Topics in Zoology. Examination of topics of special interest not available in other departmental courses. Offered in response to student need and faculty availability. Prerequisite: consent of instructor.

493-1 to 6 Honors Research. Individual research for honors students in zoology. For undergraduate credit only. Prerequisite: approval of departmental chairperson and a faculty supervisor.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and with methods of field study, collection, and preservation. Offered Fall, Spring, Summer terms. Prerequisite: consent of department.

497-3 Helminthology. Identification, structure, physiology, and life history of parasitic helminths. Three lectures per week. Prerequisite: 407.



6

Student Services

Campus Life

Student Development

Student Development provides a wide range of programs and services designed to complement and enhance the student's educational experience. Units included are: 1) Center of Student Involvement, which administers the registered student organizations program, Black Affairs, fraternities and sororities, student leadership development and volunteerism programs; 2) New Student Orientation; 3) SIUC Parents Association; 4) First Year Experience, which coordinates Projects MAGIC, STEP, AHEAD/Sociology 101, the faculty, staff and peer mentoring programs for new students; 5) Transitional Programs, which administers the undergraduate withdrawal program and coordinates student serious injury and death notices; 6) Student Judicial Affairs, which administers the Student Conduct Code; and 7) Rainbow's End, a child development center for the children of SIUC students, faculty and staff.

Student Orientation Programs. Student Development provides a comprehensive orientation program for new students and their parents. These programs are designed to assist students in making a smooth transition into the University community and to introduce both new students and their parents to the University's vast resources, services, and programs. Orientation sessions are offered prior to the beginning of each semester and on new student advisement and registration days. Upperclassmen, known as student life advisers, serve as orientation peer advisers to help the new student learn about the campus and its services. The Student Orientation Committee is available year round to assist students. For more information or assistance, telephone 453-5714.

It's MAGIC. Project MAGIC (Maximize Academic Growth In College) is one of three unique freshman experience programs and is designed as a general advisement program for freshman students. The purpose of the program is to help freshman students derive the greatest benefit from the people, programs, and facilities at the University. This is done by providing interested freshmen with the opportunity to develop a friendly and helpful relationship with a member of the University faculty or staff, a mentor, who can assist the new freshman in developing career and academic goals, in learning how to maximize the educational opportunities available at the University, and in becoming acclimated to college life. To enroll in Project MAGIC, contact Student Development, 453-5714.

Project STEP. Project STEP (Success Through Experienced Peers), one of three in a series of freshman experience programs, is a peer mentoring program for new students. The purpose of the program is to help prepare freshman students for suc-

cess at the University. This is done by providing interested freshmen with the opportunity to develop a friendly and informal mentoring relationship with an experienced Southern Illinois University at Carbondale student. Volunteer peer mentors help students become acclimated to college life, develop academic and career goals, and learn about involvement and leadership opportunities at the University. For information on how to enroll in the project, contact Student Development at 453-5714.

Project AHEAD. In cooperation with the Department of Sociology, Student Development provides an academic course for first semester students at the University. Commonly referred to as Project AHEAD (A Humanistic Educational Approach to Development), the course is designed to help prepare students for success in college and is one of the three experience programs specifically designed for new students. The course uses an experiential learning mode of activities and group discussions pertaining to the freshman year experience. Topics for discussion focus on factors and issues associated with successful adjustment in college and academic achievement. Students learn valuable tips on study skills, communication skills, reading skills, time management techniques, and testing skills. For additional information, contact Student Development, telephone 453-5714.

Southern Illinois University Parents Association. Open to all parents of students at the University, the parents association provides opportunities for parents to become better informed and more positively involved with their student's education and university experiences. The nominal annual family membership fee entitles parents to periodic newsletters, special event programs, and a number of University and community discounts. Membership applications are available from Student Development.

Registered Student Organizations. Over 360 registered student organizations offer opportunities for student involvement, student leadership and development, and experiential learning. A core of over 400 volunteer faculty/staff advisers, along with the professional staff of Student Development, provide direction and consultation with the student organizations in the areas of fiscal management, organizational development, and University policies and procedures. The office also provides a variety of services designed especially for the organizations: membership referrals, student organization directories, leadership development workshops, equipment checkout service, copy duplicating service, mail box service, and programming resource library. Included among the organizations are student governmental groups, coordinating councils, public interest groups, fraternities and sororities, publication and media groups, scholastic and professional honoraries, departmental clubs, special interest groups, religious organizations, and sports and recreation clubs. Interested students should contact Student Development or attend an activities fair to learn more about student organizations.

Black Affairs Council. Black Affairs Council serves as the coordinating and governmental body for the 16 black student organizations on campus. It assumes a major responsibility for programming social, cultural, and educational programs for black students at the University. The offices are located on the third floor of the Student Center, telephone 453-2534.

Inter-Greek Council. Inter-Greek Council is the activity coordinating council for the University's 16 social fraternities and 9 social sororities. Sub-councils include the Inter-Fraternity Council, the Panhellenic Council and the Pan-Hellenic Council. The Greek system promotes leadership, scholarship, and service, offering stu-

dents an opportunity to enhance their University experience. Rush, or membership recruitment, is sponsored at the beginning of fall and spring semesters, as well as at designated times throughout the year. For additional information, contact the Inter-Greek Council, telephone 453-5714.

Mobilization of Volunteer Effort. Mobilization of Volunteer Effort (MOVE) promotes student involvement and community service learning activities in the University and community. It serves as a clearinghouse to coordinate student volunteer interests with the needs of over 75 service organizations on campus, in Carbondale, and in communities within a six-county area. The outreach programs provide opportunities for students to gain experience in nearly every field of interest: day care, senior citizens, recreation, handicapped, mental health, youth, tutorial, corrections, crisis, and intervention. The United Way Campaign and the Red Cross Blood Drive are examples of special projects. Special events include activities such as Mobilization of Volunteer Effort Week, community development projects, and charity benefits. Mobilization of Volunteer Effort also serves as a referral and coordinating agent for student organizations which promote service and need assistance with a project or special event. Mobilization of Volunteer Effort is located in Student Development, telephone 453-5714.

Leadership Development Services. Student Development sponsors a leadership development series designed to provide students with activities and experiences that enhance their leadership skills and student involvement on the campus. The LEAD (Leadership Education and Development) organization, composed of faculty, staff, and students provides direction and consultation for registered student organizations, and offers leadership workshops and special topic seminars throughout the year. For additional information, contact Student Development.

Media and Publications. Special opportunities are available for students who have an interest in the area of media and publications. These include serving as an editor, photographer, artist, writer, or office supervisor for either the award-winning *Obelisk II* yearbook or *Monolith* new student record book; the *Five O'Clock News*, a periodic publication of the Black Affairs Council, which features news and event information of special interest to black students; *Insight*, an award-winning newsletter of particular interest to orientation student life advisers; *Columns*, a periodic publication directed toward the interests of fraternity and sorority members; *Southern Portrait*, a monthly newsletter devoted to special features and items of particular interest to student leaders and members of registered student organizations; *Rainbow Connection*, a weekly newsletter for parents of children enrolled at Rainbow's End child development center. Telephone 453-5714 for more information.

Credit for Involvement. In cooperation with various academic units, Student Development provides opportunities for students to receive academic credit for their participation in student activities and student organizations. Opportunities available include leadership development courses for fraternity and sorority members, community service-learning programs for Mobilization of Volunteer Effort workers, leadership development seminars for orientation student life advisers, and undergraduate and graduate internships in such areas as student development, early childhood education, and media and publications.

Rainbow's End Preschool. Rainbow's End is a comprehensive day care, child development center designed to serve children, ages 6 weeks to 10 years, of University students, faculty, and staff members. The center, which is staffed by qualified pro-

professionals, is licensed by the Illinois Department of Children and Family Services and is a participant in the State of Illinois Child Care Food Reimbursement Program. Special features of Rainbow's End include a range of full and part time day care options, the assessment of tuition and fees based upon the number of hours for which the child is enrolled, and reduced tuition fees for student parents. Programs offered include infant/toddler, preschool, five-year-old, summer school age, and before- and after-school, in addition to an intergenerational program, sponsored in cooperation with the Carbondale Senior Citizens. Rainbow's End is open from 7:30 a.m. to 5:30 p.m. each day the University is in session. Rainbow's End is located at Lakeland School, 925 South Giant City Road in Carbondale, telephone 529-2271.

Student Center

The Student Center is the community center of the University for all students, faculty, staff, alumni, and guests. It is not just a building—it is an organization and a program which together represent a well-considered plan for the community life of the University.

The Student Center offers students many work and cocurricular opportunities. Approximately 450 students annually have job opportunities in the Student Center and the center receives sizeable student work aid to supplement work opportunities. There are also academic credit and work-related opportunities in conjunction with Commercial Graphics-Design, and the Departments of Educational Administration and Higher Education and Recreation. In addition, through Student Center and Student Programming Council programs, nonmajors may become actively involved in theater, dance, and other performing arts activities.

As a community center it performs four important missions. It supplies support services which complement the academic mission of the university through the bookstore, food service, information services, and meeting facilities. It is part of the educational program of the University and serves as a laboratory of citizenship and leadership through participation in its various boards and committees that provide a campus-wide social, cultural, and recreational program. It is an extension of the classroom which allows practicum students, graduate assistants and interns the opportunity to develop on-the-job expertise in their fields of learning. It serves as a unifying force in the University, cultivating interactions on a common ground between students, faculty, staff, alumni, and friends. It is a focal point to which alumni and students can relate when returning to campus.

The Student Center covers almost eight acres of floor space and is open approximately 16 hours a day, seven days a week. The University Bookstore sells new and used textbooks and school and personal supplies. A variety of food services are offered in the cafeteria, snack bar, deli, restaurant, and bakery and through concessions and catering service. Other facilities and services are automated post office, automated banking, event ticket sales, check cashing, Student Health Assessment Center, Western Union money order receiving station, bowling lanes, billiard room, craft shop, art exhibit and display case areas, television and video lounges, and general lounges for study and relaxation.

Other available facilities include ballrooms, an auditorium, and several private meeting and dining rooms. Offices in the Student Center are the Alumni Office, the Student Development Office, the University Programming Office, and student organization and student government offices.

University Bookstore

The University Bookstore is an integral part of the Student Center and is located on the ground floor with the main entrance at the cross halls.

As part of the educational process, the University Bookstore provides textbooks and specialized supplies for all classes. It also has a general book department with references and current best sellers. In the supply sections, the University Bookstore carries a variety of office supplies, school supplies, art and engineering materials, computer supplies, imprinted apparel, gift items and greeting cards, and personal products.

The University Bookstore also provides the following services: book and thesis binding, laminating, rubber stamp ordering, class ring sales, technical pen cleaning, typewriter rentals, gift wrapping, document placquing, geological survey maps, postage stamps, telex news via Western Union, Visa and Mastercard, cap and gown rental and sales, special order services for books and supplies, and textbook buy back service. Money spent at the University Bookstore returns to the operation of the Student Center.

Another important mission of the University Bookstore is to provide job opportunities, retailing and marketing experiences, internships, and a laboratory for research.

SIU Arena

The SIU Arena for twenty-five years has accommodated athletic events, meetings, musical programs, stage performances, and similar activities that demand an indoor participant area or facilities capable of accommodating large audiences. The facilities and staff are available to help meet the requirements of the educational program as well as the intercollegiate athletics program, Area Services, the Division of Continuing Education, and student activities. The SIU Arena also provides a popular entertainment series to help fulfill the educational, cultural, social, and entertainment needs of the University community.

Shryock Auditorium

Located on the "old campus" of Southern Illinois University at Carbondale, Shryock Auditorium stands as one of the fine and performing arts centers of southern Illinois.

Constructed in 1917 and named after University president Henry William Shryock, the facility was renovated in 1970 at a cost of 1.5 million dollars. Upon re-opening in January, 1971, guests were pleased and surprised to find a new decor of opulent grand opera splendor, while the original motif of the building had been retained.

As the largest auditorium on campus, seating over 1,200, Shryock Auditorium is well equipped to handle almost any type of event, from the performing arts on a grand scale to large group meetings and conferences. Facilities include dressing rooms capable of accommodating up to 70 performers, modern stage rigging, lighting and sound systems, and air conditioning throughout the audience areas.

The Shryock Auditorium Celebrity Series annually presents the finest in touring musicals, plays, ballet, modern dance, opera, international entertainment, and big bands. In addition, the auditorium is utilized by functional units of the University, by recognized student organizations, and by non-student on-campus groups when the event is of educational, cultural, or social significance.

The beautiful decor and appointments of Shryock Auditorium with the nostalgic memories surrounding this old campus landmark make it one of the places students and alumni return to and pridefully show to campus visitors year after year.

Campus Communications Media

SIUC BROADCASTING SERVICE

The SIUC Broadcasting Service operates public television stations WSIU in Car-

bondale and WUSI in Olney. It also operates WSIU-FM in Carbondale. Students are provided opportunities to get hands-on experience in a wide range of radio and television specialties. The Broadcasting Service encourages active student volunteer participation in all areas of its operations. Students are able to work with modern equipment in actual on-the-air situations. They can become involved in the creation of radio and television programming, and they can compete for paid student crew positions.

The stations of the SIUC Broadcasting Service are affiliated with a variety of national organizations such as National Public Radio and the Public Broadcasting Service. Students who work at the stations, while completing their major in radio and television, have learning experiences available to them which are extremely valuable upon entering the job market. Southern Illinois University at Carbondale is known nationally and admired for the practical experience it provides its students through participation in radio and television station activities.

NEWSPAPER

The *Daily Egyptian*, campus newspaper, is published when the University is in session Mondays through Fridays, spring and fall semesters and Tuesday through Fridays during the summer session, and serves as a morning daily newspaper for the University community. The publication also serves as a laboratory newspaper for students in the School of Journalism, produced under professional supervision, using student editors and staff. About 100 students work at news gathering, editing and layout, production, advertising and distribution. The circulation is about 27,000. Students do not have to be enrolled in journalism to be employed in the newspaper departments of news, photography, camera, paste-up, typesetting, advertising, business, printing, and circulation. The newspaper is published and printed in a plant equipped with electronic facilities to produce a 40-page daily newspaper on a web offset press.

Intercollegiate Athletics

Combining athletic prowess with academic excellence is the goal of Southern Illinois University at Carbondale's athletics program which encompasses eighteen sports for men and women. All intercollegiate sports compete at the Division I level (football I-AA).

Men's basketball, baseball, cross country, golf, tennis, and track compete in the tough Missouri Valley Conference, the nation's oldest conference west of the Mississippi, while swimming is an independent. All nine women's sports — basketball, cross country, golf, indoor and outdoor track, softball, swimming, tennis and volleyball — compete in the highly respected Gateway Collegiate Athletic Conference, a ten-school league established in May, 1982.

The 1989-1990 school year should prove to be one of the most memorable in the program's history.

A new head football coach will benefit from a large group of lettermen returning from last season. The football Salukis compete in the Gateway Conference—one of the nation's premier Division I-AA football conferences. Southern Illinois University at Carbondale won the NCAA Division I-AA football national championship in 1983 before a national television audience.

The men's basketball program appears to have turned the corner in 1989 by capturing twenty victories and a berth in the National Invitation Tournament. The Salukis appear ready for a winning record and another upper division finish in the conference.

Women's basketball, which has continued to thrive in the 1980's, will be aiming for its third Gateway title and NCAA bid in five years during the 1989-1990 season. Although the team relinquished its Gateway title and a 29-game Gateway

winning streak in 1987-1988, it will be out to regain a top twenty position in the polls—rankings the Salukis have enjoyed at times during the past four years.

The men's and women's track programs are literally on the right track with a totally reconstructed oval at McAndrew Stadium. A new indoor track, part of a Recreation Center expansion, will give the Salukis some of the best track and field facilities in the Midwest. The men's team recently captured a Missouri Valley Conference title while the women's team has dominated Gateway Conference track for three of the past four seasons.

A new clubhouse at Abe Martin baseball field has been constructed primarily with donated time and money. The University won the Missouri Valley Conference title in 1986 and received a spot in the NCAA's post season tournament for the 13th time. The Salukis have made five trips to the College World Series.

After a respectable finish at the 1988 Gateway tournament, the veteran softball coach was left with a youthful squad which appears to be a solid title contender for the foreseeable future. The softball Salukis have earned four trips to the Women's College World Series.

Volleyball, coming off an overall good season in the 1988 Gateway tournament, appears entrenched as a regular upper division team in the Gateway. It will be operating under the direction of a new coach.

A newly combined men's and women's swimming and diving program continues to be nationally recognized despite heavy graduation losses.

Many former Salukis have distinguished themselves in almost all sports at the national level as professional or amateur athletes.

While virtually all Saluki sports have enjoyed athletic success, a continued emphasis on academics has resulted in noteworthy achievements. At the end of Spring Semester, 1987, four sports had cumulative 3.0 team grade point averages or better and 12 of 20 sports had a 2.70 cumulative team grade point average or better. At least one Saluki has been named to a GTE/CoSIDA Academic All-American national team each of the past five years, while numerous swimmers have been named Academic All-Americans by the College Swimming Coaches Association of America. While winning back-to-back Gateway Commissioner's Cups for overall athletic program excellence, Southern Illinois University at Carbondale has also led the conference in the number of female athletes cited for academic excellence.

Intramural-Recreational Sports

The Office of Intramural-Recreational Sports, located in the Student Recreation Center, provides campus-wide, year-round programs to meet the needs of individuals and groups wishing to participate in sport or leisure time activities. Program opportunities are available at the Student Recreation Center, various campus playfields, tennis courts, and Lake-on-the Campus.

Intramural sports offers organized tournaments and special events for individual and team competition. Recreational sports programs include informal recreational opportunities, recreation for special populations, sport clubs, family programs, fitness workshops, and aquatic activities at the 40-acre Lake-on-the-Campus.

The Student Recreation Center houses a gymnasium, an Olympic-size swimming pool, eight handball/racquetball courts, a martial arts room, equipment check-out areas, a dance studio, a weight room, saunas in each locker room, and a climbing wall.

Recreational equipment is available for indoor and outdoor use. Base camp provides equipment rental for backpacking and camping at a nominal fee.

Adventure Resource Center offers information, workshops, and leisure counseling to assist students with awareness of recreational opportunities and leisure alternatives on campus and throughout Southern Illinois.

Newest among the activities for the Office of Intramural-Recreational Sports are programs designed specifically for the growing number of re-entry and international students as well as the families of each.

For detailed information concerning programs and facilities, contact the Office of Intramural-Recreational Sports, 536-5531.

Campus Ministries

Campus Ministries at Southern Illinois University at Carbondale, with an awareness of the diverse religious and cultural traditions existing in society, are committed to all efforts unifying the people of God with loving concern for one another. The member ministries see the University as a unique setting for the development of personal growth and commitment in a richly varied environment, providing dialogue and interaction in all aspects of a person's life. They share with the University community in a joint search for truth and an ever deeper meaning in life. Thirteen individual ministries, Jewish and Christian, constitute the Campus Ministries organization. For a current brochure containing more detailed information about their worship, programs, and fellowship offerings, telephone (618) 549-7387 or 529-3552 or write Campus Ministries, 701 W. Mill, Carbondale, IL 62901.

Campus Services

Student Health Program

The University provides an extensive health benefits plan through the Student Health Program. Student input to the plan is provided through the Student Health Program Advisory Board. Interested students may contact the chairperson of the Student Health Program Advisory Board, 536-7575.

AREAS OF SERVICE

The Student Health Program offers the following interrelated programs.

Wellness Center. The Wellness Center offers programs and services to help students achieve optimal health and to skillfully administer self-care when ill. Individual and small group counseling, workshops, and seminars in the Student Center, residence halls, and Student Recreation Center, classroom presentations and special programs are offered throughout the year. Specific services provided through the Wellness Center are as follows:

Stress Management Information	Alcohol and Drug Information and Counseling
Weight Loss Counseling	Wellness Library
Nutrition Assessment Information and Counseling	Wellness Outreach Program—Student Center
Yoga, Meditation and Guided Imagery	Residence Hall Programs and Public Presentations
Self Care Advice for Athletic Injuries	Practicum and Internship Training
Patient Education	Health Advocate Program
Birth Control Information and Counseling	Biofeedback for Stress Reduction
Pregnancy Counseling	
Sexuality Information	

On-Campus Outpatient Care. This care or primary care is the same as that offered by private general physicians. The Health Service is staffed by the equivalent of six full-time physicians, a full-time psychiatrist, support staff, and student workers. The student benefits include all routine office care and a wide range of

diagnostic tests, including x-ray and laboratory procedures. The benefit does not cover pharmacy charges and may include a small front door fee. To be seen at the clinic, call for an appointment 536-2391. Walk in services are available for urgent care from 8:00 A.M. to 4:00 P.M..

Dial-A-Nurse. The Dial-A-Nurse program provides an after hours advisory service 6:00 A.M. to 11:00 P.M. Monday through Thursday, and Friday 6:00 A.M. to Sunday at Midnight, 536-5585.

Dental Services. The Student Emergency Dental Service provides dental care to resolve emergency dental disorders. There is a small front door fee. For appointments or information, call 536-2421.

LOCATION OF SERVICES

On-campus services of the Student Health Program are available at the following locations. The outpatient clinic and x-ray and laboratory services are located in 115 Greek Row, 453-3311, or 536-2391 for appointments. The pharmacy, wellness center, and administration office are located at 112 Greek Row, 536-4441. The student emergency dental program is located at the College of Technical Careers building, Room 25D, 536-2421. The Student Health Assessment Center is located in the Student Center. Health Advocate Offices are located in 106A Grinnell, 106 Trueblood, and 4 Lentz Hall.

Off-campus services for after hour emergency care are available at Memorial Hospital of Carbondale at 404 West Main Street, 549-0721.

ELIGIBILITY

Any student who is enrolled at Southern Illinois University at Carbondale and has paid the student medical benefit fee is eligible for services. If a refund has been issued for parts of the fee, as explained below, the student is still eligible for service in the areas not refunded. See student health manual for specific coverage dates. Dependents of students or staff members of the University are not eligible for Student Health Program benefits.

FEES

The student health fee is assessed each semester and summer session and is distributed to the programs listed below. A student who receives a refund of any portion of the fee is not eligible for the benefits of that program but would continue to be eligible for benefits of any programs for which the fees have been paid.

Wellness Center On-Campus	Student Emergency Dental Service On-Campus
On-Campus Outpatient Program	

The student medical insurance fee is assessed each semester and summer session and is distributed to the off-campus insurance benefits listed below. No partial refunds are given in this area; however, the entire amount may be refunded. The overall maximum per illness or injury is \$50,000.

Emergency Room	Hospitalization
Ambulance	Out-Patient Surgery
Professional Services	Accidental Death and Dismemberment Benefit

Optional coverages are available as follows: excess supplemental, dependent coverage, and continuing coverage for graduating students. Open enrollment for these programs will take place during the first three weeks of each semester. Optional summer coverage is available to those students not attending the University during summer session. This optional coverage must be purchased prior to the expiration of the spring semester coverage period. Optional graduating coverage must be purchased prior to the expiration date of the regular coverage.

For additional information on benefits and specific details of the student insurance coverage and optional coverages, please call 453-4413. The brochure entitled *Searching for Health* is available upon request.

Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of portions of the student medical benefit fee. Students who think they may qualify for a refund may apply no later than the end of the third week of each semester by contacting the administration office—insurance section of the Student Health Program. When applying, students should provide a copy of their insurance policy. The administration office—insurance section is located in Room 118 of 112 Greek Row, 453-4413.

CONFIDENTIALITY OF INFORMATION

All visits to any division of the Student Health Program are confidential. Medical information may be released when authorized by the student. Medical information may also be released without authorization from the student to a court when subpoenaed, to the University legal counsel when the university is being sued and the medical information would be pertinent, and to the public health department as required by law when a student is suffering from a reportable communicable disease. In addition, cases involving firearms and criminal offenses must be reported to the police.

Women's Services

Women's Services is a component of the Counseling Center which is devoted to the support, education, and personal growth of women. Women's Services offers short-term individual counseling, theme-oriented support and training groups, workshops, classroom presentations, and consultation to other University units on matters of concern to women. Among other services provided are information and referral, an emergency locator system for students who are parents, advocacy, an extensive women's resource file, and a lending library. Women's Services also sponsors and promotes small and large scale events such as Women's Safety Week and the Take Back the Night march held each fall. A newsletter, *Women in Transition*, keeps university and community women informed of current issues and upcoming events.

Women's Services coordinates the re-entry women's program and the campus safety program. The re-entry program serves women who are returning to school and non-traditional age women entering school for the first time. Services provided through this program include personal and career counseling, information on financial aid, child care, and University procedures, as well as networking opportunities to help re-entry women find support and encouragement from one another. The campus safety program coordinates and promotes efforts to increase women's safety on campus and provides services to women who have been physically or sexually assaulted. Safety related offerings include rape awareness and self-defense workshops, counseling and support for victims of sexual assault, the Brightway Path, the night safety van, and women's safety transit.

Women's Services is located on the second floor of Woody Hall in room B244 (453-3655). Services are available to all persons from the University or community who have a concern relevant to women. Men having questions or concerns relating to women's issues are welcome to use Women's Services. No appointment is necessary; walk-ins are always welcome.

University Placement Center

The University Placement Center provides assistance to students preparing for entry into the working world. Placement staff are available to assist students and alumni with all aspects of the job search including planning, resume

writing, interviewing techniques, letters of application, general information about career opportunities in their field, and specific facts about positions taken by recent SIUC graduates in major areas of study. The University Placement Center is contacted annually by over 1500 organizations, representing businesses, government agencies, schools, and service organizations. Lifetime credential service is available to all students at the University Placement Center, and alumni are encouraged to inform the center of their plans and avail themselves of the available services. Students may establish a file containing their resume and letters of recommendation, which will be sent upon request to any employer seeking to fill a vacancy or to any graduate school of the student's choice.

Cooperative Education. The University sponsors paid work experience for students in selected majors. The employer usually requires a co-op student to alternate work with semesters in school. Work begins, in most cases, following the last semester of the sophomore year and concludes after sixteen weeks. The student returns to school for a semester, then goes back to work for a semester. Course credit is available at the discretion of the student's academic department.

Internships. Internships may be paid or voluntary. Students can find listings year round through the University Placement Center's *Preprofessional Job Bulletin*.

Career Development Center

The Career Development Center is a unit charged specifically with helping students resolve career or choice of major conflicts by providing direct access to a staff of professionally trained counselors. Students who have not chosen a major, or who wish to examine work values and assess their abilities, can talk with professional career counselors on a one-to-one basis. They will be assisted in clarifying their ideas about themselves and in identifying possible occupational alternatives. The career counselors also administer and interpret tests and surveys to determine an individual's values, interest, achievement, and personality factors. A career information library is maintained by Career Development and provides students with print materials about career fields, specific job opportunities, and job search techniques. Students may engage in computerized career exploration by using DISCOVER, a computerized career exploration and decision making interactive program. The center is located in B204 Woody Hall, 536-7528.

Testing Services

Testing Services is a regional center offering undergraduate and graduate admission and technical, professional and certification examinations. Tests such as the ACT, SAT, GRE, LSAT, MCAT, Miller Analogies Test, etc., are offered on a regular basis. Local placement and academic proficiency tests and national CLEP and PEP examinations are also available. These programs ensure proper class placement of entering students and provide academically talented students with the opportunity to receive college-level credit for material already mastered. In addition, general educational development tests for area adults who have not completed high school, as well as licensure and competency programs required by the State of Illinois and professional associations are offered as a service to candidates. Registration forms and information brochures, many containing sample tests allowing candidates to become familiar with test content and emphasis, are available from Testing Services.

Counseling Center

The Counseling Center is staffed with professional psychologists and counselors qualified to assist students with personal development issues and to resolve emo-

tional problems. Personal problems, relationship adjustment difficulties, family conflict, and sex role awareness development are areas of frequent concern to students. Individual, couple, and group counseling, as well as crisis intervention, are provided within an atmosphere of confidentiality and trust. In addition, personal development group programs are available to assist students in such areas as social skill development, assertiveness, drug and alcohol abuse, managing anger, victims of incest, eating behaviors, and others. Call 453-5371 for information or an appointment. The center is located in A302 Woody Hall.

Services to Students with Disabilities

The University maintains a strong commitment to make all services, programs, and activities equally available to students with disabilities. Disabled students are integrated into regular programs and services and special services are provided through the Disabled Student Services Office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Available services and programs include pre-admission information, pre-enrollment planning, orientation training, transportation, recreational activities, career counseling and placement services, proctoring academic examinations, alternate materials and equipment for visually impaired students and learning disabled students, reader recruitment and referral, recruitment and referral of personal attendants, interpreters and notetakers for hearing impaired students, wheelchair repair, special parking, liaison with academic departments and other offices, and liaison with agencies such as vocational rehabilitation and the Veterans Administration.

The campus is quite accessible and usable by students who use wheelchairs, and by those who are semi-ambulatory, visually handicapped, hearing impaired, learning disabled or otherwise disabled. The University Housing Office provides modified housing in the Thompson Point Residential Area and in the family housing areas.

Persons with disabilities apply and are considered for admission in the same manner as other persons. The nature or severity of disability is not considered in the admission determination. Persons with disabilities interested in attending Southern Illinois University at Carbondale are encouraged to visit the campus in order to discuss programs and services and to tour the campus. Disabled prospective students are also encouraged to formally apply for admission as far in advance as possible to ensure sufficient time for planning support services after being admitted but before the starting date of the semester.

Any further information may be obtained by writing to the Office of Admissions or the Disabled Student Services Office. The Disabled Student Services Office may be reached by calling (Area Code 618) 453-5738. This number provides opportunity for regular voice communication as well as a telephone device for the deaf (TDD) for communication by and with deaf persons.

Non-Traditional Student Services

Non-traditional student services assists and serves non-traditional students—those who are 24 or older, married, have dependents, are enrolled part time, or who have been away from formal education for some time. Increasing the awareness and response within the University community to the unique needs and circumstances of non-traditional students is a primary concern of the office. The staff provides assistance, information, support, and referral to other University and community programs and services to help non-traditional students obtain the maximum benefits from their university education.

Office of the University Ombudsman

The Office of the University Ombudsman is an independent and impartial Uni-

versity agency directly responsible to the president. The mission of the office is to assist members of the campus community to resolve questions regarding their rights and responsibilities. Students, faculty, administrative/professional, and civil service staff are encouraged to contact the office for assistance when experiencing difficulties as a result of adverse administrative decisions, conflicts with others, or confusion about University rules and procedures. The office maintains up-to-date information files on University policies and procedures. All contacts made are confidential.

The Office of the University Ombudsman solves a broad range of problems and conflicts. Even the most serious controversies can often be resolved through mediation. The basic work of the office also generates information serving to identify recurring or emerging problem areas. These may result from changes in University policies and procedures, internal adjustments, consolidations, or responses to changing needs. They may also result from exogenous shocks such as changes in financial aid, enrollment, demographics, or other stresses. The ombudsman reports to the president and administrators regarding this knowledge, both regularly and irregularly, in the interest of the efficient functioning of the University.

The office is located in Woody Hall C302; hours are 8:00 to 4:30, Monday through Friday; and the telephone number is 453-2411.

Clinical Center

The Clinical Center is staffed by professionally trained faculty and by supervised student diagnosticians, therapists, and counselors. It provides diagnostic and treatment services to faculty, staff, University students, and other individuals in the community.

Services include diagnostic assessment of psychological, speech, hearing, reading, and general educational problems. Therapy services encompass various forms of counseling and behavior modification, speech and hearing therapies, physical therapy, and educational remediation.

Alumni Services

Founded in 1896, the Southern Illinois University Alumni Association provides services and support to alumni and students of the university. The association publishes the quarterly *Alumnus* magazine and an annual tabloid, *Alumnus Too*. The association sponsors alumni chapters, college alumni societies, reunions, Homecoming activities, and a number of special events throughout the year, including the Great Cardboard Boat Regatta. Ongoing services to students include externships, opportunities for graduating seniors to serve career internships with alumni, and the Student Alumni Council, a registered student organization that links current students with alumni.

University Museum

The University Museum serves the campus community and surrounding area through its active exhibit program and in its cooperative ventures with other academic units to improve the quality of instruction.

The exhibits housed in the University Museum facility, Faner Hall, C wing, are designed to give viewers an authentic glimpse of the area's past. Changing exhibits displayed in the University Museum include a series of graduate student thesis presentations, faculty art, and photography, as well as exhibits from the permanent collections and special national and international exhibits designed around a particular theme. In addition to these formal exhibits, many permanent collection objects are displayed at several other campus locations.

The University Museum also serves students in more specific ways, by providing on-the-job training, courses in museum studies, and opportunity for creating and installing practicum exhibits of art, history, and science. Through these ave-

nues, students are able to draw on the extensive collections which include approximately 2,500 works of fine art, ethnographic artifacts from many areas of the world and 19th and 20th century historic objects.

The University Museum provides a community service through guided tours, lecture programs, a loan program, and exhibits in public places; and works with many area groups to provide meaningful learning experiences.

International Programs and Services

International Programs and Services is an administrative unit within Academic Affairs and Research-Services. Programs and services offered by the unit are operated through three divisions: International Students and Scholars, Study Abroad, and International Development.

International Students and Scholars. A comprehensive range of programs and services is provided to international students and the broader community to facilitate educational and cultural exchange by the International Students and Scholars division. These include the areas of immigration and financial services, educative and supportive services, and intercultural community activities.

Immigration and financial services include processing financial clearance for admissions of foreign students, serving as a liaison with foreign governments and sponsoring agencies, and providing certification for foreign currency exchange. Information about sources of financial aid for international students is available. Also, assistance with U.S. immigration regulations, visas, and interpretation of the law pertaining to non-immigrant students and scholars is provided. Forms prescribed for use by the Immigration and Naturalization Service for documenting foreign students and scholars are available here.

Educative and supportive services add a full complement of programs and activities from pre-arrival information for new students to preparation for going home workshops. Within this area are: a monthly newsletter, the *International Dateline*; individual foreign student advisement and counseling; advisement of international student associations and the International Student Council; assistance with initial arrival and settling in; and referrals to community or other campus agencies. The annual International Festival is a major event of interest to the University community.

International Programs and Services works closely with the International Friends Club, a community volunteer organization, on community programs. Eight programs are offered to international students and their families and international visitors for the purpose of intercultural understanding and exchange. The programs include the Host Family Program, English in Action, Language Exchange, Speakers' Bureau, International Custom Cooking Demonstration, American Cuisine, International Spouses Group, and a Loan Closet. A recent extension of the Speakers' Bureau is the IN GEAR program, an International Network for Global Educational Activities in Rural Schools, whereby international students are invited to speak in public school classrooms. Information about any of these programs may be obtained from International Programs and Services. International Students and Scholars is located at 910 South Forest. The telephone number is 453-5774.

Study Abroad Programs. The study abroad division coordinates services for American students and faculty, including international grant programs, exchanges and study abroad programs. It is the central referral point for information on the student and faculty Fulbright programs and on the British Marshall,

International Research and Exchange Board (IREX), Belgian-American Educational Association, and Rhodes scholarships. Students may also participate in inter-university international exchange programs and in travel/study programs offered during the summer and intersession periods. Study Abroad is located at 803 South Oakland. The telephone number is 453-5774.

International Development. The International Development division provides University-wide coordination, support, and leadership for a wide variety of developmental activities. These activities include research and dissemination of information on externally funded programs, maintenance of an international resource collection, development of proposals for grants and projects, administration of inter-institutional agreements, coordination of services for visiting international scholars and delegations, and reports, planning statements, and studies on international interests. Other activities such as international student recruitment and alumni are carried out in cooperation with the Office of Admissions and Records and Alumni Services.

Assistance is provided to faculty and staff in the exploration of international linkages, grant or project ideas, identification of external funding sources, proposal development, campus coordination, and follow-up activities. International Development is located at 803 South Oakland. The telephone number is 453-5774.

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Policy on the Release of Student Information and Access to Student Records at Southern Illinois University at Carbondale

I. Purpose

Southern Illinois University at Carbondale, hereinafter referred to as the University, maintains individual records and information about students for the purpose of providing educational, vocational, and personal services to the student. For the purpose of complying with federal regulations regarding the maintenance of confidentiality of student educational records, as required by the Family Educational Rights and Privacy Act of 1974, the following policy has been enacted.

II. Definitions

- A. "Student" is defined as a person who is or has been enrolled at Southern Illinois University in a course of study either on campus or off campus. Solely for purpose of this policy, any student attending Southern Illinois University will be considered to be an adult and to have sole control over the release of his/her information except as provided in this policy. The term "enrolled" is defined as having registered and paid fees into a course of study.
- B. "Education records" means those records which are directly related to a student, and are maintained by Southern Illinois University or any subunit or by any party acting for Southern Illinois University. The term does *not* include:
 - 1. Personal records of instructional, supervisory, and administrative personnel which are not revealed to other individuals.
 - 2. Records of a law enforcement unit of an educational institution which are maintained apart from the education records, maintained solely for law enforcement purposes, and are not disclosed to individuals other than law enforcement officials of the same jurisdiction.

For purposes of this policy, the Southern Illinois University Security Office will be treated as an outside agency and will therefore be required to comply with all regulations relating to the disclosure of information from students' educational records, as set forth in the policy.
 - 3. Employment records, so long as they are maintained separately from any educational record.

4. Records of a physician, psychologist, or other recognized professional or paraprofessional acting in his or her professional capacity which are used only in connection with treatment and are not disclosed to individuals other than those providing the treatment; *Provided*, that these records can be personally reviewed by a physician or other appropriate professional of the student's choice.
 5. Records which contain only information relating to a person after that person was no longer a student at Southern Illinois University, such as alumni files.
- C. "Student Information" means any information contained in an educational record as defined in II. B.
- D. "Personally identifiable information" includes:
1. The name of a student, the student's parents, student's spouse, or other family member.
 2. The address of the student.
 3. A personal identifier such as the student's social security number or student number.
 4. A list of personal characteristics which would make the student's identity easily traceable.
 5. Other information that would make the student's identity easily traceable.
- E. "Directory information" includes:
1. Student name.
 2. Student local address and telephone number.
 3. Student home address and telephone number.
 4. Current term hours carried.
 5. Classification (freshman, sophomore, etc.)
 6. Academic unit.
 7. Major.
 8. Date of attendance.
 9. Degrees and honors earned and dates.
 10. The most previous educational agency or institution attended prior to enrollment at Southern Illinois University.
 11. Participation in officially recognized activity or sport.
 12. Weight, height, and pictures of members of athletic teams.
 13. Date of birth.
 14. Picture.

III. Basic Policy Regarding Disclosure of Information from Educational Records

- A. Disclosure not requiring prior consent
1. The appropriate recordkeeping office shall obtain the written consent of the student before disclosing personally identifiable information from the records of a student, except in the case of directory information or disclosures to:
 - a. The student himself/herself.
 - b. University personnel who have a legitimate educational need to permit their functioning or research. The sufficiency of the need will be determined by the head of the unit from which the records are sought.

Student information supplied to any Southern Illinois University personnel or unit is provided on the basis that it is needed to permit their necessary functioning. All members of the faculty, administration, and clerical staff must respect con-

fidential information about students they require in the course of their work. They are bound by the conditions outlined in this policy statement relative to the release of student information. All institutional personnel should be alert to refer promptly to the appropriate office requests for transcripts, certifications, or other information which that office typically provides. They should restrict their responses to acknowledging, when appropriate, the receipt of requests for student information germane to their sphere of responsibility.

- c. Officials of other schools or school systems in which the student seeks or intends to enroll, if there is a legitimate need. The sufficiency of the need will be determined by the head of the unit from which the records are sought. A copy of any information sent will be provided to the student upon request.
- d. Faculty or students conducting student characteristic research providing the research project has written approval of the academic unit executive officer sponsoring the research and providing guarantees are made that no personally identifiable information will be published or released.
- e. Certain state and federal representatives specified by law for the sole purpose of evaluating and auditing of governmentally funded programs in which the University participates, with the guarantee that the identity of the students will be protected.
- f. State and local officials as directed by the State Statute adopted prior to November 19, 1974, as approved by University Legal Counsel.
- g. Organizations conducting studies for, or on behalf of, state or federal educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, with the guarantee that the identity of the student shall be protected.
- h. In connection with financial aid for which the student has applied or received.
- i. Accrediting organizations to carry out their accrediting function, with the guarantee that the identity of the student shall be protected.
- j. Appropriate persons in connection with an emergency, if knowledge of such information is necessary to protect the health or safety of a student or other persons.
- k. Comply with a judicial order or subpoena, but the University should make a reasonable effort to notify the student first. The sufficiency of the order or subpoena will be determined by the University Legal Counsel and that office shall send the required notice to the student.

B. Disclosure Requiring Prior Consent

1. Except as listed in A above, all requests for student information other than directory information must be accompanied by a written consent of the student.
2. The written consent required by this section must be signed and dated by the student giving the consent and shall include (a) a specification of the records to be disclosed, and (b) the party or parties to whom the disclosure may be made.
3. When the disclosure is made pursuant to this section, the appro-

priate recordkeeping office shall, upon request, provide a copy of the records which are disclosed to the student.

4. Student information will not be released to parents of students without the student's permission.

C. Disclosure of Directory Information

Directory information pertaining to students may be released by the University at any time provided that it publish the definition at least once each academic year in the campus student newspaper or other designated publication with wide circulation, and the individual student is given a reasonable period of time to inform the University in writing, through the Office of Admissions and Records, that he/she does not wish such information about himself/herself to be released without his/her prior consent. The Office of Admissions and Records will be responsible for identifying or deleting all information which the student desires not to be released outside the University and for informing all University recipients of that information that such information is not to be released. The student must request deletion of information each year.

The procedural requirements of this section do not apply to the disclosure of directory information from the educational records of an individual who is no longer in attendance at the University. Thus, the University (or appropriate recordkeeping office) is not required to give public notice of the above to former students.

All recipients of student information will be bound by this policy. Lists of student information are never knowingly provided to any requesting party for a commercial or political purpose. If a student directory is published, it shall be equally available to all.

D. Records of Disclosure Made

Records of disclosure are not required to be kept in the record of a student when the disclosure is initiated by the student himself/herself.

The University may disclose personally identifiable information from the education records of a student only on the condition that the party to whom the disclosure is made will not further disclose the information without the student's written consent, except in the case of disclosure of directory information.

The University shall, except for the disclosure of directory information, inform the party to whom disclosure is made of the obligation to receive the student's consent before further disclosure to other parties.

E. Waiver of Right to Inspect and Review Education Records

1. The student may waive his/her right to inspect and review education records. The waiver, in order to be valid, must be in writing and signed by the student. The University (or each appropriate recordkeeping office) may not require a waiver of rights but it may request such a waiver.
2. If a student has waived his/her right to see confidential letters of recommendation placed in his/her record after January 1, 1975, the waiver will be effective only if: (a) the applicant or student is, upon request, notified of the names of all individuals providing the letters or statements; (b) the letters or statements are used only for the purpose for which they were originally intended, and (c) such waiver is not required by the University as a condition of admission to or receipt of any other service or benefit from the University.
3. A waiver may be revoked, but the revocation must be in writing

and signed by the student. Revocation of waiver will affect only documents received after its execution.

IV. Identification and Description of Student Information

A. Academic Records

The Office of Admissions and Records retains the official academic record of a student. It is a cumulative history of a student's admission, registration, and academic participation and performance. Certain biographic and demographic information is also kept for identification for enrollment and research-related purposes. For information concerning these records contact the director of Admissions and Records.

Academic records may also be maintained in academic units, departments, and divisions. For information concerning these records contact the head of the academic unit, department, or division in question. The Office of Institutional Research also maintains some academic records.

B. Financial Records

Offices within the Business area maintain certain financial records which relate to payment and accounting of tuition, fees, and other charges. They also maintain records which record student loans and grants. For information concerning these records, contact the Bursar's Office.

For billing purposes, the Office of Admissions and Records maintains a record of financial aid received and tuition and fees paid. For information concerning these records, contact the director of Admissions and Records.

The Financial Aid Office maintains records of student receiving loans, grants, and aid along with scholarship information and some academic information. It also maintains records pertinent to student employment including the family financial statement. For information concerning these records, contact the director of the Financial Aid Office.

The Housing Office maintains records of housing accounts. For information concerning these records, contact the director of Housing.

C. Medical/Counseling/Clinical Center Records

The University Health Service maintains medical records of students who have required medical assistances through the student health program. Only information pertinent to the health of the individual is contained therein. For information concerning these records, contact either the administrative director or the medical director of Student Health.

The University Counseling Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of the Counseling Center.

The University Clinical Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of the Clinical Center.

D. Disciplinary Records

The Office of Student Affairs maintains records of disciplinary action which has been taken against a student with documentation pertaining thereto. That office also maintains only the academic information necessary to permit its functioning. For information concerning these records, contact the director of Student Development.

E. Placement Records

The University Placement Center creates a record for those persons

who wish to avail themselves of its services, with student's voluntary participation. This information is distributed to potential employers. It consists of self-completed resumes and various personal references. For information concerning these records, contact the director of the University Placement Center.

V. Access to Records

A. Right to Inspect or Review Educational Records

1. The student has the right to physically review his/her records in the presence of a designated University representative.
2. Requests for review may be required to be submitted in writing to the appropriate office.
3. That office shall comply with the request within a reasonable time, but in any case, compliance shall be no more than thirty (30) days after the receipt of the request.
4. Where necessary, interpretation of the record shall be provided by qualified University personnel.
5. Original records cannot be removed from University premises. A copy will be provided if requested, but only if not providing a copy would preclude review of the educational records by the student.
6. Copies of transcripts from other educational institutions will be provided only if the original source of those transcripts is no longer available or going to the original source would cause undue hardship as determined by this University.

B. Limitations on Right to Inspect or Review

1. The student may not inspect the following records:
 - a. Financial records and statements of their parents.
 - b. Confidential letters or materials placed in records before January 1, 1975 so long as they were solicited with an understanding of confidentiality and are used only for the purpose for which they were written.
 - c. Confidential letters of recommendation and confidential statements of recommendation placed in the education records of the student after January 1, 1975, are subject to the student's right to inspect and review unless the student has signed a written waiver.
2. Reports that involve two or more persons may be censored to protect the identity of the other person(s).

C. Administrative Hold on University Records

On occasion it is necessary for a University to place an administrative hold on a student's ability to request a transcript, to register for a subsequent term, to reenter the University after a period of attendance interruption, or to be officially graduated.

In cases where an administrative hold has been placed on a student's record, the student may view such records but will not be able to obtain a copy of said record until the administrative hold is removed through the appropriate University channels.

VI. Challenging Contents of a Student's Educational Record

A. Purpose

A student has the right to challenge the content of a record on the ground that he/she believes it is inaccurate, misleading, or otherwise in violation of his/her privacy or other rights and to have inserted in the record his/her written explanation of its contents. Academic grade

review procedures are covered in the University Catalog and/or such particular academic unit, department or division and not by this policy.

B. Procedure

To initiate such a challenge, the student shall, within sixty (60) days after he/she has inspected and reviewed the record in question for the first time, file with the University office responsible for maintaining such record a written request for correction, on a form specified by the University. Within thirty (30) days following receipt of such request, the head of such office, or his/her representative, shall review the record in question with the student and either order the correction or deletion of such alleged inaccurate, misleading, or otherwise inappropriate data as specified in the request or notify the student of the right to a hearing at which the student and other persons directly involved in the establishment of the record shall have an opportunity to present evidence to support or refute the contention that the data specified in the request are inaccurate, misleading, or otherwise inappropriate.

C. Hearing

The student shall be given written notice sent to his/her last known address of the time and place of such hearing not less than ten (10) days in advance. The hearing will be conducted by a University representative who does not have a direct interest in the outcome. The student might well challenge the hearing officer. Any disagreement regarding the hearing officer will be resolved by the appropriate Vice President.

The student shall have the right to attend the hearing, to be advised by an individual of his/her choice at his/her own expense, including an attorney, and to call witnesses in his/her behalf. The student shall be notified in writing of the decision within ten (10) days following the hearing or within five (5) days of a decision without a hearing. Such decision is final. The decision reached shall be based solely upon the evidence presented at the hearing and shall include a summary of the evidence and reasons for the decision.

(Note: A hearing may not be requested by a student to contest the assignment of a grade; however, a hearing may be requested to contest whether or not the assigned grade was recorded accurately in the education records of the student.)

VII. Destruction of Records

A. The University may destroy education records when they are no longer necessary, with the following limitations:

1. Education records may not be destroyed if there is an outstanding request to inspect and review them.
2. Explanations placed in the record by the student and the record of disclosure of information must be maintained as long as the education record to which it pertains is maintained.

VIII. Right to File Complaints

- A. If the student thinks his or her rights have been violated, he or she should first file a complaint with the head of the office which maintains the records in question.**
- B. After exhausting all the internal remedies available within the University, if the student still thinks his or her rights have been violated, written complaints can be filed with:**

The Family Educational Rights and Privacy Act Office
Department of Health, Education, and Welfare
330 Independence Avenue S.W.
Washington, D.C. 20201

The office shall notify the complainant and the University of the receipt of the complaint and an investigation will follow.

Student Conduct Code

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I. Introduction

- A. Purpose

Southern Illinois University at Carbondale is dedicated not only to learning, research, and the advancement of knowledge, but also to the development of ethically sensitive and responsible persons. The University seeks to achieve these goals through sound educational pro-

grams and policies governing individual conduct that encourage independence and maturity. By accepting membership in this University, an individual joins a community characterized by free expression, free inquiry, intellectual honesty, respect for others, and participation in constructive change. All rights and responsibilities exercised within this academic environment shall be compatible with these principles.

B. Rights and Responsibilities

Students shall be free to examine all questions of interest to them and to express opinions. They shall be guaranteed all constitutional rights including free inquiry, expression, and assembly. All regulations shall seek the best possible reconciliation of the principles of maximum academic freedom and necessary order.

C. Title/Authority/Enforcement

These regulations shall be known as the Student Conduct Code for Southern Illinois University at Carbondale. The regulations contained herein are established under the authority granted by law to the Board of Trustees to establish rules and regulations for Southern Illinois University and pursuant to Chapter 3 *Policies of the Board of Trustees C* authorizing the President to develop regulations dealing with student rights and conduct. All students of the University community have the responsibility to comply with these regulations. The responsibility for the enforcement of the Code rests with the President of Southern Illinois University at Carbondale or that officer's designees. The effective date for this Code is June 9, 1986.

D. Jurisdiction

The University community has a responsibility to provide its members those privileges, opportunities, and protections which encourage and maintain an environment conducive to educational development. Accordingly, this Code shall apply to (1) conduct occurring on property owned or controlled by the University, and (2) conduct occurring elsewhere, but only if the student's conduct has substantially interfered with the University's educational functions, including, but not limited to, interference with the educational pursuits of students, faculty, or staff or conduct having its origins in the educational process.

When a student has been apprehended for violation of a law the University will not request special consideration because of the individual's status as a student. The University will cooperate fully with law enforcement and other agencies administering a corrective or rehabilitative program for the student. The University reserves the right to initiate concurrent disciplinary action.

Academic dishonesty violations in the School of Law will be adjudicated through that unit's Professional Ethics Policy. Academic dishonesty violations in the School of Medicine will be adjudicated through that unit's Student Progress System. Law students and medical students on the Carbondale campus charged with other violations of the Code will be treated as any undergraduate and graduate student. In addition, law students charged with violations of social misconduct may also be charged under the School of Law's Professional Ethics Policy and medical students on the Carbondale campus charged with violations of social misconduct may also be charged under the School of Medicine's Student Progress System.

E. Definitions

1. "Academic officer" means any Instructor, Department Chairperson, Dean, Director, or Coordinator.

2. "Adjudication" means the resolution of disciplinary charges, including the appeal process.
3. "Admission" means admission, readmission, re-entry, registration, and re-registration as a student in any educational program at the University.
4. "Appeal" means a process for reviewing an earlier decision.
5. "Board" means the Board of Trustees of Southern Illinois University.
6. "Charge" means an accusation of a violation of the Student Conduct Code of Southern Illinois University at Carbondale.
7. "Code" means the Student Conduct Code for Southern Illinois University at Carbondale.
8. "Days" means all days when classes are in session.
9. "Formal" disciplinary procedures are disciplinary procedures used when the question of guilt is contested or when the student accepting responsibility for the disciplinary charges prefers to have a full hearing on the sanction.
10. "Informal" disciplinary procedures are disciplinary procedures used when the question of guilt is not contested and the student prefers to have an immediate decision on the sanction.
11. "Instructor" means any teaching assistant or member of the faculty.
12. "Members of the University Community" means the members of the Board of Trustees, employees, and registered students of Southern Illinois University at Carbondale.
13. "President" means that individual appointed by the Board as the chief executive, administrative, and academic officer of Southern Illinois University at Carbondale and any person authorized or directed by the President to act on that officer's behalf.
14. "Sanction" means a measure imposed on account of violation(s) of the Code.
15. "Student" means any person registered for, enrolled in, or auditing one or more classes.
16. "University" means Southern Illinois University at Carbondale.
17. "University official" means any individual authorized or directed by the President or that officer's designee to perform any delegated function.
18. "Violation" means a breach of conduct governed by the Code. The standard of proof used shall be a preponderance of the evidence.

II. Violations

A. Acts of Academic Dishonesty

1. Plagiarism: Representing the work of another as one's own work.
2. Preparing work for another that is to be used as that person's own work.
3. Cheating by any method or means.
4. Knowingly and willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research.
5. Knowingly furnishing false information to a University official relative to academic matters.
6. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this Code.

B. Acts of Social Misconduct

1. Violence
 - a. Rape
 - b. Physical Abuse
 - c. Direct threat of violence
 - *d. Harassment
 - e. Intimidation
 - f. Intentional obstruction or substantial interference with any person's right to attend or participate in any University function.
 - g. Participation in any activity to disrupt any function of the University by force or violence
 - h. Reckless behavior representing a danger to person(s)
2. Property Damage
 - a. Arson
 - b. Willful or malicious damage or destruction of property
 - c. Reckless behavior representing a danger to property
3. Weapons (unauthorized possession and/or use)
 - a. Firearms
 - b. Explosives and/or explosive devices
 - c. Any type of arms defined as weapons in Chapter 38 of the Illinois Revised Statutes
 - d. Pellet guns and B-B guns
 - e. Fireworks
4. Disobedience
 - a. Disobedience, interference, resistance, or failure to comply with direction of an identified University official acting in the line of duty.
 - b. Trespassing
 - c. Unauthorized entry
5. Deception
 - a. Furnishing false information to the University with intent to deceive
 - b. Forgery, alteration, or misuse of University documents, records, and identification cards
 - c. Forgery or issuing a bad check with intent to defraud
6. Theft
 - a. Misappropriation or conversion of University funds, supplies, equipment, labor, material, space, or facilities
 - b. Possession of stolen property
7. Safety
 - a. Intentionally entering false fire alarms
 - b. Bomb threats
 - c. Tampering with fire extinguishers, alarms, or safety equipment
 - d. Tampering with elevator controls and/or equipment
 - e. Failure to evacuate during a fire, fire drill, or false alarm
8. Cannabis or Controlled Substances (as defined in Chapter 56 1/2 of the Illinois Revised Statutes)
 - a. Manufacture
 - b. Sale or delivery
 - c. Unauthorized possession and/or use
9. Hazing (as defined in Chapter 144 of the Illinois Revised Statutes)
10. Abusive or disorderly conduct

11. Violations of University Housing regulations
12. Violations of other duly promulgated University policies or regulations, including but not limited to, alcohol, demonstrations, pets, smoking, solicitation, and guidelines for access to data and programs stored on the computer, will be adjudicated under this Code.
13. Acts Against the Administration of this Code
 - a. Initiation of a complaint or charge knowing that the charge was false or with reckless disregard of its truth
 - b. Interference with or attempt to interfere with the enforcement of this Code, including but not limited to, intimidation or bribery of hearing participants, acceptance of bribes, dishonesty, or disruption of proceedings and hearings held under this Code.
 - c. Knowing violation of the terms of any disciplinary sanction or attached conditions imposed in accordance with this Code.
14. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this Code.

*Charges of sexual harassment may be adjudicated under the University Sexual Harassment Policy.

III. Sanctions

The following are sanctions which may be imposed for a violation of this Code. Also, a condition may accompany a sanction. Conditions include, but are not limited to, restitution of damages, work projects, required counseling or therapy, required academic performance, etc. A condition may include loss of certain university privileges. If a condition accompanies a sanction, the condition must be related to the violation.

- A. Failure of an assignment, quiz, test, examination, or paper
A failing grade (F) may be assigned for the work in connection with which the violation occurred.
- B. Failure in a course
A failing grade (F) may be assigned for the course in which the violation occurred.
- C. Disciplinary Reprimand
In cases of minor violations and when the violation is acknowledged by the student, a written reprimand may be issued by the Dean for Student Life or that officer's designee upon the recommendation of a University official. The purpose of the reprimand shall be to call to the student's attention the responsibility of meeting certain minimal community standards. Since a reprimand is given only when the violation is acknowledged the sanction may not be appealed.
- D. Disciplinary Censure
Disciplinary censure is a written warning to the student that the cited behavior is not acceptable in the University community and that further misconduct may result in more severe disciplinary action. The student may appeal the finding of a violation but may not appeal the severity of the sanction.
- E. Disciplinary Probation
Disciplinary probation removes a student from good disciplinary standing. The probation shall last for a stated period of time and until specific conditions, if imposed, have been met. Any misconduct during the probationary period will bring further disciplinary action and may result in suspension. Probationary status prevents the student from representing the University in some extracurricular activities and may result in the loss of some types of financial assistance.

F. Disciplinary Suspension

Disciplinary suspension is an involuntary separation of the student from the University for a stated period of time and until a stated condition, if imposed, is met after which readmission will be permitted. Disciplinary suspension is entered on the student's transcript for the duration of the suspension.

G. Indefinite Suspension

Indefinite suspension is an involuntary separation of the student from the University for an unprescribed period of time and until a stated condition, if imposed, is met. Any consideration for readmission requires a written petition to the appropriate administrative official before readmission will be considered. The indefinite suspension is entered on the student's transcript for the duration of the suspension.

H. Interim Separation

If the President or that officer's designee has reasonable cause to believe that a serious and direct threat to the safety and well-being of the members and/or property of the University community will be present if an individual is permitted to remain an active member of the community an interim separation may be imposed. A preliminary hearing or the opportunity for a preliminary hearing shall be afforded. If it is impossible or unreasonably difficult to conduct a preliminary hearing prior to the interim separation the individual shall be afforded the opportunity for such a preliminary hearing at the earliest practical time. The purpose of the preliminary hearing is to determine if there is justification to invoke an interim separation. During the preliminary hearing, the student will be provided a statement of the reasons for interim separation and will be afforded an opportunity to rebut. Interim separation is temporary and shall be enforced only until the completion of a full disciplinary hearing. A full disciplinary hearing shall be provided within a reasonable period of time.

IV. Policies and Procedures Applicable to Academic Dishonesty**A. Judicial Structure****1. Department Level**

The department chairperson shall have initial jurisdiction over complaints of academic dishonesty and may adjudicate the case if the student accepts responsibility for the violation(s).

2. College/School Level

a. Each Dean has the responsibility for the formal resolution of charges against a student. For the purpose of administering this code, the Graduate School Dean shall operate at the level of other deans.

b. Charges of falsifying information on applications for admission shall be adjudicated by the Director of Admissions and Records. The Director of Admissions and Records, for the purpose of administering this Code, shall operate at the level of other deans.

c. When social misconduct is also involved in an incident(s) of academic dishonesty, the Dean shall charge the student with all violations. All charges shall be adjudicated under the provisions for academic dishonesty.

3. Presidential Level

This level has jurisdiction to hear appeals.

B. Informal Disciplinary Procedures**1. Informal Hearing**

In cases where the student admits to a violation of the Code relat-

ing to academic dishonesty the matter may be adjudicated at the department level. An informal discussion between the instructor and the student shall be held. If the student admits in writing to a violation of the code, the instructor shall recommend in writing a sanction to the department chairperson. The chairperson shall meet with the instructor and the student, receive the acknowledgement of responsibility from the student, receive the recommendation from the instructor, and apprise the student of the sanction.

2. Sanctions

The full disciplinary history of the student shall be considered in determining the sanction. Sanctions which may be imposed when the student accepts responsibility for the conduct are:

- a. The student may be removed from the class immediately.
- b. The student may be assigned a failing grade for the work and/or course.
- c. The student may be placed on disciplinary probation.
- d. Any combination of the above.
- e. The department chairperson may recommend to the dean that the student be suspended from the University.

3. Notification

The department chairperson shall send written verification of the sanction(s) to the student. Such notification will normally be sent within five days of the meeting with the instructor and the student.

4. Appeal

The student may appeal the severity of the sanction or failure to follow prescribed procedure, pursuant to IV C 8. A student may not appeal the question of guilt.

C. Formal Disciplinary Procedures

1. Initiation of a Complaint

- a. Any member of the University community may initiate disciplinary proceedings by filing a complaint within twenty days of discovery of an alleged violation of the Student Conduct Code. The complaint must be made in writing with all available evidence attached. The complaint shall be filed with the department chairperson in the unit in which the alleged violation occurred.
- b. The department chairperson shall make a preliminary review of the complaint. If there are no grounds for disciplinary charges the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge a written request must be submitted to the appropriate academic dean within ten days of the receipt of the notification. The dean shall review the request, the complaint, and the department chairperson's decision and decide whether to pursue formal charges.

2. Formal Charges

In cases of alleged academic dishonesty where guilt is disputed by the student, as well as whenever there has been a recommendation from the department chairperson for suspension, the case will be adjudicated at the dean's level with a formal hearing. The dean shall notify the student in writing regarding the charge(s) as well as the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the cur-

rent local address of the student as provided to the Office of Admissions and Records by the student. Thus, failure to notify the University of changes of address could result in a hearing being held *in absentia*.

3. Formal adjudication

a. The student has the right to:

- (1) Be apprised of all evidence.
- (2) Hear and question available witnesses. Sworn statements will be accepted from those persons unable to attend the hearing.
- (3) Not be compelled to offer evidence which may be self-incriminating.
- (4) Receive a written decision specifying judicial actions.
- (5) Appeal the decision, pursuant to IV C 8.

b. The student has the option to have:

- (1) Advisory assistance. The responsibility for selecting an advisor is placed on the charged student. The advisor may be any individual except a principal in the hearing. The advisor shall be limited to advising the student and shall not participate directly in the hearing.
- (2) An open or closed hearing.
- (3) Have witnesses testify in his/her behalf. Sworn statements shall be accepted from those persons unable to attend the hearing. Character witnesses may be excluded by the hearing agent.

c. Hearing agent

The charged student may submit a preference for a hearing before a judicial board or the dean or his/her designee. The dean shall decide the hearing agent.

4. Judicial Hearing Agents

a. Judicial Board Directives

(1) Size

A judicial board shall be comprised of seven members. A quorum required to conduct a hearing shall be five members. A decision shall be reached by majority vote.

(2) Membership

(a) Student members shall meet the following standards:

- (i) Fulltime as defined by the Director of Admissions and Records.
- (ii) Good disciplinary standing since matriculation.
- (iii) Minimum grade point average of 2.5 (undergraduate); 3.0 (graduate); or professional student in good standing.

NOTE: Fulltime University employees who are enrolled in classes may not serve as student members. Graduate assistants and student workers in the department in which the incident occurred shall be excluded from judicial boards.

- (b) Faculty members may include any person under faculty appointment, excluding administrators.
- (c) All appointments shall be reviewed by the Office of the director of Student Development to ensure that candidates meet the minimal requirements. A list of judicial board members will be available upon request within the office of the academic dean.

- (3) **Judicial Board Operating Papers**
Each judicial board may develop its own operating paper. Each operating paper shall be reviewed by the office of the director of Student Development to ensure consistency with the provisions of this Code.
- (4) **Administrative Advisors**
Each judicial board shall have an administrative advisor from the Office of Student Judicial Affairs. The advisor's role shall be limited to providing guidance and clarification. The advisor shall sit with the panel in both open and executive sessions.
- (5) **Terms**
Each judicial board shall be in session for twelve weeks during the fall and spring terms and for four weeks during the summer term. A board is not expected to meet during the first two nor the last two weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer when a board is not in session or is defunct.
- (6) **Powers**
A judicial board shall make a decision of guilt or innocence and shall make a recommendation on the sanction to the Dean.
- b. **Administrative Hearing Officer**
The administrative hearing officer shall be the academic dean or that officer's designee.
5. **Judicial Hearings**
 - a. **Time limitations**
 - (1) A student electing formal adjudication shall have a minimum of five days written notice prior to a hearing.
 - (2) A student shall have five days after receiving notification of the decision in which to submit an appeal.
 - b. **Failure to appear**
Initial jurisdiction hearings shall be held *in absentia* when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.
 - c. **Tape recordings**
All formal judicial hearings shall be tape recorded. After the appeal period has expired the tape may be erased.
 - d. **Challenge for cause**
A student may challenge panel members for cause. The decision to remove a panel member will be made by the other panel members.
 - e. **Peremptory challenge**
A student may challenge one panel member without assigning any cause. A peremptory challenge will be automatically honored by the chair of the panel.
 - f. **Confidentiality**
All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in removal of judicial board members by the dean.
6. **Sanctions**
A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in

violation of the Code, the full disciplinary history shall be considered in determining the sanction. The academic dean shall request the student's disciplinary record from the Office of Student Judicial Affairs. The academic dean and the director of Student Development shall develop lines of communication to keep each other apprised of a student's disciplinary history for this purpose. Sanctions which may be imposed are:

- (1) The student may be assigned a failing grade for the work and/or course.
- (2) The student may be placed on disciplinary probation.
- (3) The student may be suspended from the University.
- (4) Any combination of the above.

7. Notification

The dean shall send written notification of the decision of the hearing and sanction(s) to the student. Such notifications will normally be sent within five days of receipt of the judicial board's recommendation or within five days of the administrative hearing.

8. Appeals

Any disciplinary determination or sanction involving academic dishonesty may be appealed from the dean's level by submitting an application for appeal to the Vice President for Academic Affairs and Research within five days after receiving notification of the prior decision. However, the right of appeal does not guarantee that an appeal will be granted nor does it entitle the student to a full rehearing of the case. An appeal hearing, if granted, will be limited to the issues set forth in subparagraph c. below.

a. The student may submit a preference for an appeal hearing before a judicial board or an administrative hearing officer. The Vice President for Academic Affairs and Research shall decide the hearing agent.

b. The burden of proof at the initial jurisdiction level is on the University. At the appeal level, however, the student bears the burden of demonstrating error as defined in the following item (c).

c. Three issues constitute possible grounds for an appeal:

- (1) Were judicial procedures correctly followed?
- (2) Did the evidence justify a decision against the student?
- (3) Was the sanction(s) imposed in keeping with the gravity of the violation? Previous violation(s) of the Code and the accompanying sanction(s) will be considered in determining a proper sanction for a current violation.

d. The appropriate committee of the judicial board or the administrative hearing officer will review the appeal to ascertain whether there are sufficient grounds for a hearing.

e. If an appeal hearing is granted the agent hearing the appeal will not rehear the case. The agent will limit its review to the specific points of the appeal that were accepted at the screening review.

f. The agent hearing the appeal may:

- (1) Affirm the decision(s) of the initial jurisdiction.
- (2) Affirm the decision(s) and reduce the sanction.
- (3) Modify the decision(s) of violation and reduce the sanction.
- (4) Reverse the decision(s) of violation, remove the sanction, and dismiss the case.

- g. A student dissatisfied with the decision on appeal may seek review by the President by submitting such a request in writing within five days after receiving notification of the prior decision. Review by the President shall also be limited to the issues specified in subparagraph c. above.
- h. Further appeal may be made to the Board of Trustees by filing an application for appeal in accordance with Article VI Section 2 of the Board of Trustees Bylaws. The Board of Trustees will review only those administrative decisions which meet the requirements for review established by the Board's Bylaws.
- 9. Implementation of Sanction(s)
 - a. The disciplinary sanction(s) shall be implemented when:
 - (1) The student has waived the right of appeal, or
 - (2) The appeal period has expired.
 - b. The sanction shall be as specified by the final adjudicating agent.
 - c. A student separated from the University for disciplinary reasons is subject to the normal guidelines for tuition and fee refunds, grades, and financial penalties for terminating a housing contract.
 - d. Following the implementation of the sanction, all records relating to the case will be filed with the director of Student Development.
- 10. Exceptions

The above procedures shall be followed unless an exception is authorized in writing by the Vice President for Academic Affairs and Research. All requests for temporary exceptions shall be submitted in writing to the Vice President. Any exception allowed shall be limited to individual cases and shall not infringe upon a student's right to written notice, opportunity for a hearing, and an appeal.

V. Policies and Procedures Applicable to Social Misconduct

A. Judicial Structure

1. Unit Level

A case may be resolved informally by a University official in a department/office as authorized by the director of Student Development, pursuant to V B 1. All cases in which guilt is disputed shall be referred to the Office of Student Judicial Affairs.

2. Campus Level

The Campus Judicial Board for Discipline and/or the coordinator of Judicial Affairs has initial jurisdiction over social misconduct not handled by other offices. The campus level also shall hear appeals from the unit level.

3. Presidential Level

This level has jurisdiction to hear appeals.

B. Informal Disciplinary Procedures

1. Informal Hearing

In cases where the student accepts responsibility for the social misconduct the matter may be adjudicated at the departmental/office level. An informal discussion between the University official and the student shall be held. If the student accepts responsibility for the charge(s) the University official shall recommend a sanction to the coordinator of Judicial Affairs.

2. Sanctions

The full disciplinary history of the student shall be considered in

determining the sanction. The University official may recommend to the coordinator of Judicial Affairs any of the following sanctions:

- a. Disciplinary reprimand
- b. Disciplinary censure
- c. Disciplinary probation
- d. Disciplinary suspension
- e. Indefinite suspension
- f. Interim suspension

3. Notification

The coordinator of Judicial Affairs shall send written verification of the sanction to the student within five days of the receipt of the recommendation.

4. Appeals

A student may appeal the severity of the sanction pursuant to V C 9 or failure to follow prescribed procedure. A student may not appeal the question of guilt.

C. Formal Disciplinary Procedures

1. Initiation of a Complaint

- a. Any member of the University community may initiate disciplinary proceedings by filing a complaint with the coordinator of Judicial Affairs within twenty days of the discovery of an alleged violation of the Student Conduct Code. The complaint must be in writing with all available evidence attached.
- b. The coordinator of Judicial Affairs shall make a preliminary review of the complaint. If there are no grounds for disciplinary charges or if the complaint should be processed under another policy the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge a written request must be submitted to the director of Student Development within ten days of the receipt of the notification. The director shall review the request, the complaint, and the coordinator of Judicial Affairs decision and decide whether to pursue formal charges.

2. Formal Charges

In cases of alleged social misconduct when guilt is disputed by the student, the case will be adjudicated at the appropriate level with a formal hearing. The coordinator of Judicial Affairs shall notify the student in writing regarding the charge(s) as well as the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the current local address of the student provided to the Office of Admissions and Records by the student. Thus, failure to notify the University of changes of address could result in a hearing being held *in absentia*.

3. Fact-Finding Conference

The coordinator of Judicial Affairs shall conduct a fact-finding conference which shall include the charged student and may include the complainant and/or witnesses. Matters to be examined at the fact-finding conference are:

- a. The charge(s) filed against the student.
- b. The evidence against the student.
- c. The witnesses, if any, that shall testify.
- d. The provisions of the Student Conduct Code.
- e. Whether to continue disciplinary procedures.
- f. The student may elect to acknowledge the violation(s) at the

fact-finding conference and have a decision made on the sanction by the coordinator of Judicial Affairs at the fact-finding conference. If this option is chosen the student may appeal only the severity of the sanction.

- g. The student may elect to have a formal hearing scheduled in the future.
- h. If the student fails to make an appointment for or fails to keep a scheduled appointment for a fact-finding conference the case may automatically be referred to the appropriate hearing agent for a hearing.

4. Formal Adjudication

- a. The student has the right to:

- (1) Be apprised of all evidence.
- (2) Hear and question available witnesses. Sworn statements will be accepted from those persons unable to attend the hearing.
- (3) Not be compelled to offer evidence which may be self-incriminating.
- (4) Receive a written decision specifying judicial actions.
- (5) Appeal the decision, pursuant to V C 9.

- b. The student has the option to have:

- (1) Advisory assistance. The responsibility for selecting an advisor is placed on the charged student. The advisor may be any individual except a principal in the hearing. The advisor shall be limited to advising the student and shall not participate directly in the hearing.
- (2) An open or closed hearing.
- (3) Witnesses testify in his/her behalf. Sworn statements shall be accepted from those persons unable to attend the hearing. Character witnesses shall be excluded.

- c. Hearing agent

The charged student may submit a preference for a hearing before a judicial board or an administrative hearing officer. The appropriate University official may decide the hearing agent.

5. Judicial Hearing Agents

- a. Judicial Board Directives

- (1) Size

A judicial board shall be comprised of seven members. A quorum required to conduct a hearing shall be five members. A decision shall be reached by majority vote.

- (2) Membership

- (a) Student members shall meet the following standards:
 - (i) Fulltime as defined by the Director of Admissions and Records.
 - (ii) Good disciplinary standing since matriculation.
 - (iii) Minimum grade point average of 2.5 (undergraduate); 3.0 (graduate); or professional student in good standing.

NOTE: Fulltime University employees who are enrolled in classes may not serve as student members.

- (b) Faculty members may include any person under faculty appointment, excluding administrators.
- (c) All appointments shall be reviewed by Student Development to ensure that candidates meet the minimal

requirements. A list of judicial board members will be available upon request within the office of the director of Student Development.

(3) Judicial Board Operating Papers

Each Board may develop its own operating paper. Each operating paper shall be reviewed by the Office of Student Development to ensure consistency with the provisions of this Code.

(4) Administrative Advisors

Each judicial board shall have an administrative advisor from the Office of Student Judicial Affairs. The advisor's role shall be limited to providing guidance and clarification. The advisor shall sit with the panel in both open and executive sessions.

(5) Terms

Each judicial board shall be in session for twelve weeks during the fall and spring terms and for four weeks during the summer term. A board is not expected to meet during the first two nor the last two weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer when a board is not in session or is defunct.

(6) Powers

A judicial board shall make a decision of guilt or innocence and shall make a recommendation on the sanction to the appropriate administrator.

b. Administrative Hearing Officer

An administrative hearing officer appointed by the director of Student Development shall be available at all levels to adjudicate disciplinary cases.

6. Judicial Hearings

a. Time Limitations

- (1) A student electing formal adjudication shall have a minimum of five days written notice prior to a hearing.
- (2) A student shall have five days after receiving notification of the decision in which to submit an appeal.

b. Failure to appear

Initial jurisdiction hearing shall be held *in absentia* when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.

c. Tape recordings

All formal judicial hearings shall be tape recorded. After the appeal period has expired the tape may be erased.

d. Challenge for cause

A student may challenge panel members for cause. The decision to remove a panel member will be made by the other panel members.

e. Peremptory challenge

A student may challenge one panel member without assigning any cause. A peremptory challenge will be automatically honored by the chair of the panel.

f. Confidentiality

All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in administra-

tive removal of judicial board members by the director of Student Development.

7. Sanctions

A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in violation of the Code, the full disciplinary history shall be considered in determining the sanction. The director of Student Development shall request the student's disciplinary records from the academic dean. The academic dean and the director of Student Development shall develop lines of communication to keep each other apprised of the student's disciplinary history for this purpose.

Sanctions which may be imposed are:

- a. Disciplinary reprimand
- b. Disciplinary censure
- c. Disciplinary probation
- d. Disciplinary suspension
- e. Indefinite suspension
- f. Interim separation

8. Notification

The coordinator of Judicial Affairs shall send written notification of the decision of the hearing and sanction(s) to the student. Such notification will normally be sent within five days of receipt of the judicial board's recommendation or within five days of the administrative hearing.

9. Appeals

Any disciplinary determination or sanction involving social misconduct may be appealed to the next level in the judicial structure by submitting an application for appeal in writing to the director of Student Development or the Vice President for Student Affairs, as appropriate, within five days after receiving notification of the prior decision. However, the right of appeal does not guarantee that an appeal will be granted nor does it entitle the student to a full rehearing of the case. An appeal, if granted, will be limited to the issues set forth in subparagraph c. below.

- a. The student may submit a preference for an appeal hearing before a judicial board or an administrative hearing officer. The appropriate university official shall decide the hearing agent.
- b. The burden of proof at the initial jurisdiction level is on the University. At the appeal level, however, the student bears the burden of demonstrating error as defined in the following item (c).
- c. Three issues constitute possible grounds for an appeal:
 - (1) Were judicial procedures correctly followed?
 - (2) Did the evidence justify a decision against the student?
 - (3) Was the sanction(s) imposed in keeping with the gravity of the violation? Previous violation(s) of the Code and the accompanying sanction(s) will be considered in determining a proper sanction for a current violation.
- d. The appropriate committee of the judicial board or the administrative hearing officer will review the appeal to ascertain whether there are sufficient grounds for a hearing.
- e. If an appeal hearing is granted the agent hearing the appeal will not rehear the case. The agent will limit its review to the specific points of the appeal that were accepted at the screening review.

- f. The agent hearing the appeal may:
 - (1) Affirm the decision(s) of the initial jurisdiction.
 - (2) Affirm the decision(s) and reduce the sanction.
 - (3) Modify the decision(s) of the violation and reduce the sanction.
 - (4) Reverse the decision(s) of violation, and remove the sanction, and dismiss the case.
- g. A student dissatisfied with the decision of the Vice President for Student Affairs may seek review by the President by submitting such a request in writing within five days after receiving notification of the prior decision. Review by the President shall also be limited to the issues specified in subparagraph c. above.
- h. Further appeal may be made to the Board of Trustees by filing an application for appeal in accordance with article VI section 2 of the Board Bylaws. The Board of Trustees will review only those administrative decisions which meet the requirements for review established by the Board's Bylaws.
- 10. Implementation of Sanction(s)
 - a. The disciplinary sanction(s) shall be implemented when:
 - (1) The student has waived the right of appeal, or
 - (2) The appeal period has expired.
 - b. The sanction shall be as specified by the final adjudicating agent.
 - c. A student separated from the University for disciplinary reasons is subject to the normal guidelines for tuition and fee refunds, grades, and financial penalties for terminating a housing contract.
 - d. Any type of disciplinary separation from the University may be accompanied by a condition which bars the student from University property.
- 11. Exceptions

The above procedures shall be followed unless an exception is authorized in writing by the director of Student Development. All requests for temporary exceptions shall be submitted in writing to the director of Student Development. Any exception allowed shall be limited to individual cases and shall not infringe upon a student's right to written notice, opportunity for a hearing, and an appeal.

VI. Amending Procedures

- A. Review and/or Revisions

At the request of any recognized constituency, the Vice President for Academic Affairs and Research, or the Vice President for Student Affairs, the President or that officer's designee shall appoint a committee to consider amendments to this Code. The committee shall consist of two undergraduate students, one graduate student, two faculty members, one academic dean, one representative from the University Housing Office, one representative from the Office of Judicial Affairs, and an ex officio representative from the Legal Counsel Office. The student and faculty members shall be designated by their appropriate constituencies. The Vice President for Student Affairs shall appoint a chairperson for the committee who may be one of the members listed above.
- B. Amendments

The President may propose to the Chancellor amendments to the Code. Whenever the circumstances allow, due consideration shall be

given to the recommendations of the committee provided for in the preceding paragraph. Amendment will be accomplished by the regular procedures for amendment of University policy.

C. Notification

Any amendment of the Code shall become effective only after general notice of such change has been given to the student body, faculty, and administrative staff. General notice shall include, but not be limited to, public notification of approved amendments twice successively published in the *Daily Egyptian* in their entirety within seven days after approval of said amendments by the Chancellor.

Policy Accommodating Religious Observances of Students

Admissions/Registration

The University's admissions process provides ample opportunity for admission and registration activities without conflicting with religious holidays and observances. However, students may receive another appointment when an appointment for admission counseling, or an appointment for academic advisement, or an appointment for registration for classes falls on a date or at a time that would conflict with the student's observances of major religious holidays. The individual student must notify in writing the appropriate admissions officer or academic adviser of the conflict with the student's observance of the religious holiday. That notification shall be made immediately after the student's receipt of the appointment or at least five (5) work days prior to the appointment time, whichever is later.

Class Attendance

Students absent from classes because of observances of major religious holidays will be excused. Students *must notify the instructor at least three regular class periods in advance of an absence from class for a religious holiday* and must take the responsibility for making up work missed.

Examinations

Instructors are requested not to schedule class examinations on dates that would conflict with major religious holidays. In the event an examination must be scheduled on a date that conflicts with a student's required observance of a religious holiday, the student should be given reasonable opportunity to make up the examination. It is the student's responsibility to notify the instructor of the class when the examination will be missed. That notification must occur at least three regular class meeting periods in advance of the absence or at the time the announcement of the examination is made, whichever is later.

Grievance Procedure

A student who believes that he or she has been unreasonably denied an educational benefit due to his or her religious belief or practices may petition in writing as follows:

Cases involving class attendance or class examinations that are unresolved at the class instructor level may be appealed by the student by filing a petition in writing, within thirty calendar days of the incident being appealed, to the chair or coordinator of the department or program in which the course is offered. In the event the case is not resolved to the student's satisfaction at the department/

program level within five (5) working days after the chair's receipt of the petition, the student may petition in writing to the dean of the school or college to which that teaching department or program reports. The student's petition to the school or college level must be filed with the dean within five (5) working days of the decision at the department level. Should the case not be resolved to the student's satisfaction at the school or college level within five (5) working days of the petition filing at that level, the student may petition the Vice President for Academic Affairs. If the student is still not satisfied at that level within the five working day time period, he or she may petition to the President within another five working days. Decisions of the President may be appealed to the Chancellor, and to the Board of Trustees if necessary, in accordance with Bylaws of the Board of Trustees.

In cases involving admissions, *the grievance process should follow the time frames described above*, with the initial petition being filed with the Director of Admission and Records, which is the only filing point prior to the Vice President for Academic Affairs.

Clean Air Policy for Southern Illinois University at Carbondale

The following policy is a direct quote from the recently formulated University policy statement.

I. Policy and Principles

In order to promote the health of the University community, to preserve and protect University property and to provide a clean and safe environment to study, work and learn, Southern Illinois University at Carbondale hereby adopts the goal of establishing a smoke-free campus by the Year 1995.

II. Interim Rules

- (1) Beginning July 1, 1988, smoking is prohibited in all indoor areas except those areas designated by a prominent "Smoking Permitted Here" sign.
- (2) Coordinating Responsibility and Implementation:
 - (a) The President shall appoint a "Clean Air Advisory Committee" which shall advise the President on means to meet the goal of a smoke-free campus by the Year 1995.
 - (b) The President and his designees: Vice Presidents, Deans, Chairpersons, administrative officials and supervisors are generally responsible for the implementation and enforcement of this Clean Air Policy. It is hoped, in light of the health issues involved, that most people will comply with this policy out of self-interest and concern for others. However, complaints or concerns regarding this policy or disputes regarding its implementation should be referred to the immediate administrator/supervisor for resolution.
 - (c) College/department administrative officials should make every effort to assure that this policy is communicated to everyone within their jurisdiction and to all new members of the University community.
 - (d) College/department administrative officials should also assure that appropriate signs are posted.

- (e) Requests for exceptions to this policy and/or complaints which cannot be resolved at the unit/department or college level should be referred to the Office of Personnel Services.
- (3) Subject to the provisions of subsection 4 below, designation of a smoking area may be allowed only in the following areas:
 - (a) Private dormitory rooms where all occupants agree to allow smoking and in private residences on campus;
 - (b) Private, single employee offices which have either separate ventilation systems from other work areas or full partitions. In such instances, smoking will be permitted only with the door closed;
 - (c) Common office or work areas where all employees unanimously agree to allow smoking;
 - (d) Up to one-third of the area of a cafeteria or eating facility;
 - (e) Up to one-third of a study hall or lounge area;
 - (f) University vehicles where all occupants agree to allow smoking.
- (4) Smoking specifically shall not be allowed in classrooms, lecture and conference halls, gymnasiums, museums, theaters, laboratories, instructional shops, storage areas, smoke-sensitive equipment rooms, hallways, elevators, reception areas, client-service areas, mailrooms, copy rooms, restrooms, Morris Library or any other campus library, food preparation facilities or any public meeting room.
- (5) Buildings, or portions thereof, may be declared to be smoke-free where smoking is not allowed under any circumstances.
- (6) All administrative actions relating to this policy shall be guided by the principle that the right to breathe clean air is always superior to the privilege to smoke. The rights of nonsmokers to breathe clean, safe air and the need to protect University property from destruction or deterioration shall be considered in the designation of any smoking area.
- (7) Responsibility for honoring the provisions of this policy and the designations implementing this policy shall be the obligation of all employees, students and visitors of Southern Illinois University at Carbondale.
- (8) Smoking cessation counseling shall be offered at a nominal charge to all students and employees by the SIUC Wellness Center.

III. Clean Air Policy in the Year 1995

By 1995 smoking shall be allowed only in outdoor areas.

University Policy Statement on AIDS

I. General Policy

After careful study, the University AIDS Task Force has accepted the conclusions of the American College Health Association, that:

Current knowledge ... indicates that college and university students or employees with AIDS, ARC (AIDS Related Complex) or a positive HTLV-III antibody test do not pose a health risk to other students or employees in the usual academic or residential setting. *AIDS on the College Campus (1986)*

The following policies are based on the current state of medical knowledge, and are subject to change as new information becomes available.

II. Policy Foundations

- A. University decisions involving persons who suffer from AIDS shall be based on current and well-informed medical information.
- B. Current prevailing medical authorities agree that AIDS is not communicated through casual contact but requires intimate sexual contact or an exchange of body fluids.
- C. For the purpose of this policy statement, the term *AIDS* shall include AIDS, AIDS-Related Complex and a positive test for Human Immunodeficiency Virus.
- D. This policy should be reviewed periodically to ensure that it reflects the most current information available from both governmental and medical authorities.

III. Non-Discrimination

- A. The University shall not discriminate in enrollment or employment against an individual with AIDS.
- B. No one shall be denied access to campus activities or facilities solely on the ground that they suffer from AIDS.

IV. Confidentiality

- A. The University shall comply with all pertinent statutes and regulations which protect the privacy and welfare of persons in the University community who suffer from AIDS as well as the welfare of others within the University community.
- B. The University will maintain procedural safeguards throughout the University with the objective of protecting the privacy of persons living with AIDS.
- C. All confidential medical information about an individual will be handled in compliance with legal requirements and professional ethical standards.
- D. The University will not disclose the identity of any student or employee who has AIDS, except as authorized by law or pursuant to guidelines following the general standards included in the *American College Health Associations' Recommended Standards and Practices for a College Health Program*, fourth edition:

In general, it is recommended that no specific or detailed information concerning complaints or diagnosis be provided to faculty, administrators, or even parents, without the expressed written consent of the patient in each case.

V. University Responsibilities

- A. The University shall develop and maintain a comprehensive educational program about AIDS.
- B. The University shall identify sources of competent and confidential testing for AIDS as well as counseling services upon request.
- C. The University shall identify sources of qualified medical care and encourage those with AIDS to utilize such sources.
- D. The University shall adopt and implement safety guidelines as proposed by the U.S. Public Health Service for handling and disposing of blood and other body fluids.
- E. Decisions in all situations involving students or employees with health problems are to be made on a case by case basis, based on the med-

ical facts in each case and with concern for the confidentiality and best interests of all parties involved. The President, or his designee, shall identify the person(s) to be involved in each case.

University Policy on Sexual Harassment

Southern Illinois University at Carbondale is committed to creating and maintaining a community in which students, faculty, and staff can work together in an atmosphere free of all forms of harassment, exploitation, or intimidation. Sexual harassment, like harassment on the basis of race or religion, is a form of discrimination expressly prohibited by law. It is a violation of Title VII of the federal 1964 Civil Rights Act and Title IX of the Educational Amendments of 1972 and a civil rights violation of the Illinois Human Rights Act.

In addition to being illegal, sexual harassment runs counter to the objectives of the University. When people feel coerced, threatened, intimidated, or otherwise pressured by others into granting sexual favors, or are singled out for derision or abuse because of their gender, their academic and work performance is liable to suffer. Such actions violate the dignity of the individual and the integrity of the University as an institution of learning. Academic freedom can exist only when every person is free to pursue ideas in a non-threatening, non-coercive atmosphere of mutual respect. Sexual harassment is harmful not only to the persons involved but also to the entire University community.

The University will take whatever action is needed to prevent, stop, correct, or discipline behavior that violates this policy. Disciplinary action may include, but is not limited to, oral or written warnings, demotion, transfer, suspension, or dismissal for cause.

Definitions and Examples

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, verbal or other expressive behaviors, or physical conduct commonly understood to be of a sexual nature, when:

submission to, or toleration of, such conduct on or off campus is made, either explicitly or implicitly, a term or condition of instruction, employment, or participation in other University activities;

submission to, or rejection of, such conduct is used as a basis for employment or for academic decisions or assessments affecting the individual's status as an employee or student; or such conduct has the purpose or effect of unreasonably interfering with an individual's status as a student or employee or creates an intimidating, hostile, or offensive work or educational environment.

Sexual harassment may involve the behavior of a person of either sex toward a person of the opposite or the same sex. Examples of behavior that would be considered sexual harassment include, but are not limited to, the following:

physical assault;

direct or implied threats that submission to sexual advances will be a condition of employment, work status, promotion, grades, or letters of recommendation;

a pattern of conduct, annoying or humiliating in a sexual way, that includes comments of a sexual nature and/or sexually explicit statements, questions, jokes, or anecdotes;

a pattern of conduct that would annoy or humiliate a reasonable person at whom the conduct was obviously directed. Such conduct includes, but is not limited to gestures, facial expressions, speech, or physical contact understood to be sexual in nature or which is repeated after the individual signifies that the conduct is perceived to be offensively sexual.

Consenting Relationships

Consenting romantic and sexual relationships between a faculty member and a student or between a supervisor and an employee, while not expressly forbidden, are discouraged. Taking note of the respect and trust accorded a professor by a student and of the power exercised by the professor, a relationship between a faculty member and a student should be considered one of professional and client, in which sexual relationships are inappropriate. A similar relationship exists between a supervisor and an employee. The power differential inherent in such relationships compromises the subordinate's free choice. A faculty member or supervisor who enters into a sexual relationship with a student or an employee, where a professional power differential obviously exists, must realize that if a charge of sexual harassment is subsequently lodged, the burden will be on the faculty member or supervisor to prove immunity on grounds of mutual consent.

Relationships between a graduate student and an undergraduate, when the graduate student has some supervisory responsibility for the undergraduate, belong in this category. Among other relationships included are those between a student or employee and an administrator, coach, adviser, program director, counselor, or residential staff member who has supervisory responsibility for that student or employee.

Protection of the Complainant and Others

No student, faculty member, or staff member may be subjected to any form of reprisal for seeking information on sexual harassment, filing a sexual harassment complaint, or serving as a witness in a proceeding involving a complaint of sexual harassment. Any retaliatory action will be a violation of this policy and will be grounds for disciplinary action. Individuals who believe they have been subjected to reprisal for their participation in a sexual harassment complaint may use the procedures of this policy to seek redress.

Protection of the Accused

Accusations of sexual harassment are grievous and can have serious and far-reaching effects on the careers and lives of accused individuals. Allegations of sexual harassment must be made in good faith and not

out of malice. Individuals who believe they have been falsely accused of sexual harassment may use the procedures of this policy to seek redress.

Responsibility of Supervisors

Supervisory personnel are charged with maintaining an atmosphere that discourages sexual harassment and ensuring that the University policy is enforced in their areas. Supervisors are directed to discourage all behavior that might be considered sexual harassment and to respond promptly to sexual harassment complaints. University officials who knowingly condone incidents of sexual harassment or instances of reprisal for reporting such complaints will be subject to disciplinary action.

Complaint Resolution Office

The President has assigned responsibility for the administration of this policy to Personnel Services and Labor Relations and has named its Executive Director as the complaint resolution officer for the University. The complaint resolution officer will disseminate the policy to the University community, devise education and training programs, maintain centralized records of sexual harassment complaints, oversee the grievance process, coordinate the resolution of complaints, and evaluate the effectiveness of the complaint resolution procedures and related educational programs.

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Faculty

Accountancy (College of Business and Administration)

- Aman, Sue A.**, Lecturer, C.P.A., M.S., Southern Illinois University, 1986.
Barbeau, Debra J., Lecturer, M.Acc., Southern Illinois University, 1985.
Barron, Mary Noel, Associate Professor, *Emerita*, C.P.A., M.B.A., Indiana University of Michigan, 1946.
Basi, Bartholomew A., Professor, C.P.A., J.D., D.B.A., Indiana University, 1971.
Burger, Clifford R., Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947.
Gribbin, Donald W., Assistant Professor, C.P.A., Ph.D., Oklahoma State University, 1989.
Hahn, Randall, Assistant Professor, C.P.A., D.B.A., University of Kentucky, 1984.
Karnes, Allan, Assistant Professor, C.P.A., M.A., J.D., Southern Illinois University, 1986.
King, James B., II, Assistant Professor, C.P.A., Ph.D., Indiana University, 1987.
Lumbattis, Cathy, Lecturer, C.P.A., M.B.A., Southern Illinois University at Edwardsville, 1975.
Masoner, Michael, Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975.
Rivers, Richard A., Associate Professor, C.P.A., D.B.A., Kent State University, 1976.
Robinson, William T., Lecturer, M.S., A.B.D., Southern Illinois University, 1987.
Schmidlein, Edward J., Jr., Professor, *Emeritus*, C.P.A., Ph.D., New York University, 1953.
Sterner, Julia A., Assistant Professor, C.P.A., Ph.D., St. Louis University, 1982.
Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954.
Tucker, Marvin W., Professor, Ph.D., University of Alabama, 1966.
Wacker, Raymond F., Assistant Professor, C.P.A., Ph.D., University of Houston, 1989.
Welker, Robert B., Professor, Ph.D., Arizona State University, 1976.
Wright, Roland M., Professor, *Emeritus*, C.P.A., Ph.D., University of Iowa, 1962.
Wu, Frederick H., Professor and *Director*, Ph.D., Texas Tech University, 1975.

Administration of Justice (College of Liberal Arts)

- Alexander, Myrl E.**, Professor, *Emeritus*, LL.D., Manchester College of Indiana, 1956.
Anderson, Dennis B., Associate Professor and *Director*, Ed.D., University of Nebraska, 1970.
Castellano, Thomas C., Assistant Professor, Ph.D., State University of New York at Albany, 1986.
Coughlin, Joseph S., Professor, *Emeritus*, M.S.W., University of Wisconsin, 1954.
Ferdinand, Theodore N., Professor, Ph.D., University of Michigan, 1961.
Johnson, Elmer H., Distinguished Professor, *Emeritus*, Ph.D., University of Wisconsin, 1950.
LeBeau, James L., Associate Professor, Ph.D., Michigan State University, 1978.
Lorinskas, Robert A., Associate Professor, Ph.D., University of Georgia, 1973.
Matthews, Charles V., Associate Professor, M.S., University of Kansas City, 1951.
Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972.
Robinson, Cyril D., Professor, LL.B., Northwestern University, 1952.
Timm, Howard W., Associate Professor, Ph.D., Michigan State University, 1979.
Wilson, Nanci K., Associate Professor, Ph.D., University of Tennessee, 1972.

Advanced Technical Studies (College of Technical Careers)

- Adams, Deborah K.**, Visiting Instructor/Administrative Assistant, M.A., Southern Illinois University, 1983.

Bowman, Terry S., Associate Professor, M.A., Webster College, 1979.
 Brooks, Thomas M., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1961.
 Bryars, Janet C., Visiting Assistant Professor, M.Ed., Harvard University, 1962.
 Carroll, Brian J., Visiting Assistant Professor, J.D., San Francisco Law School, 1984.
 Dallman, Murnice, Associate Professor, *Emeritus*, M.S., Southern Illinois University, 1959.
 Eggers, Stephen Charles, Visiting Assistant Professor, M.B.A., Southern Illinois University, 1978.
 Falkenberry, William A., Visiting Assistant Professor, M.S., Southern Illinois University, 1980.
 Fiock, Thomas P., Assistant Professor, M.S., Southern Illinois University, 1982.
 Grace, Linda M., Assistant Professor, Ph.D., Southern Illinois University, 1985.
 Hertz, Vivienne, Associate Professor, *Emerita*, Communications, Ph.D., Southern Illinois University, 1980.
 Hoffman, Nancy L., Visiting Instructor/Administrative Assistant, M.S., Southern Illinois University, 1969.
 Horton, John B., Visiting Assistant Professor, M.Ed., Clemson University, 1972.
 Isberner, Fred R., Associate Professor, Ph.D., Southern Illinois University, 1984.
 Kahler, Raymond D., Assistant Professor, M.A., Webster College, 1981.
 Laedtke, Ralph, Visiting Assistant Professor, *Emeritus*, M.A., Webster College, 1977.
 Larsen, Dawn, Assistant Professor, Ph.D., Southern Illinois University, 1986.
 Lee, Lynda L., Visiting Assistant Professor, M.A., Webster College, 1979.
 NewMyer, David, Associate Professor, Ph.D., Southern Illinois University, 1987.
 Novick, Jehiel, Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.
 Polito, Joseph P., Visiting Assistant Professor, M.B.A., University of Southern Mississippi, 1968.
 Reeder, Ronald C., Assistant Professor, M.S. in Ed., Southern Illinois University, 1971.
 Richard, Harold, Associate Professor, Ed.D., Pennsylvania State University, 1976.
 Robb, James A., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1974.
 Svec, Christine L., Research Project Specialist, M.S., Southern Illinois University, 1975.
 Thiesse, James, Assistant Professor, Ed.D., Auburn University, 1960.
 Troutt-Ervin, Eileen, Assistant Professor, Ph.D., Southern Illinois University, 1986.
 Vitello, Elaine, Professor, Ph.D. Southern Illinois University, 1977.
 Walton, Gary, Visiting Assistant Professor, M.A., Webster College,

Aerospace Studies

Douglas, Robert M., Adjunct Assistant Professor, M.S., Air Force Institute of Technology, 1984.
 Lauderback, David L., Adjunct Assistant Professor, M.S., Troy State University, 1983.
 Monett, Mary G., Adjunct Instructor.
 Olson, Melanie G., Adjunct Assistant Professor, M.P.A., University of Oklahoma, 1987.
 Schrecker, Walter N., Adjunct Professor, M.S., University of Colorado, 1975.
 Whitmore, Patricia M., Adjunct Instructor.
 Wilder, Frank J., Adjunct Instructor.

Agribusiness Economics (College of Agriculture)

Beaulieu, Jeffrey, Associate Professor, Ph.D., Iowa State University, 1984.
 Beck, Roger, Associate Professor, Ph.D., Pennsylvania State University, 1977.
 Eberle, Phillip, Associate Professor, Ph.D., Iowa State University, 1983.
 Harris, Kim, Assistant Professor, Ph.D., University of Illinois, 1985.
 Herr, William McD., Professor, Ph.D., Cornell University, 1954.
 Keepper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938.
 Kraft, Steven E., Professor, Ph.D., Cornell University, 1980.
 Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967.
 Wills, Walter J., Professor, *Emeritus*, Ph.D., University of Illinois, 1952.

Agriculture Education and Mechanization

(College of Agriculture)

Legacy, James, Professor, Ph.D., Cornell University, 1976.
 Reneau, Fred W., Professor, Ed.D., Virginia Tech, 1979.
 Smith, Owen R., Assistant Professor, Ph.D., Purdue University, 1988.
 Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.
 Wolff, Robert L., Professor and *Chairperson*, Ph.D., Louisiana State University, 1971.

Allied Health and Public Services (College of Technical Careers)

- Beaver, Shirley**, Assistant Professor, Dental Hygiene, RDH, M.S., University of Iowa, 1971.
- Branson, Bonnie**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University, 1983.
- Callaghan, Mary E.**, Assistant Professor, *Emerita*, Dental Hygiene, R.D.L., M.A., University of San Francisco, 1962.
- Cittadino, Dominic**, Adjunct Associate Professor, Dental Hygiene, DDS.
- Clemons, John**, Instructor, Law Enforcement, J.D., DePaul University, 1975.
- Davis, Kevin L.**, Assistant Professor, Mortuary Science, M.Ed., Central State University, 1988.
- DeMattei, Ronda**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University, 1986.
- Elliott, James R.**, Associate Professor, Dental Hygiene, RDH, D.D.S., University of Tennessee, 1953; M.S., Ohio State College of Dentistry, 1962.
- Grey, Michael**, Assistant Professor, Allied Health Careers Specialties, RT(R), B.S., University of Kentucky, 1986.
- Hees, Alice Jane**, Assistant Professor, Allied Health Careers, RN, M.S., University of Colorado, 1960.
- Heischmidt, Cynthia Jo**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University, 1980.
- Hertz, Donald G.**, Associate Professor, *Emeritus*, Mortuary Science and Funeral Service, Ed.M., University of Oklahoma, 1953.
- Holland, Susan**, Assistant Professor, Allied Health Careers Specialties, RRT, M.A., University of Manitoba, 1973.
- Jams, Kayleonne**, Assistant Professor, Dental Technology, CDT, M.A., Southern Illinois University, 1980.
- Jefferies, Danny P.**, Assistant Professor, Dental Hygiene, RDH, M.S., University of North Carolina, 1986.
- Jensen, Catherine**, Assistant Professor, Dental Hygiene, RDH, M.A., Morehead State University, 1980.
- Jensen, Steven**, Associate Professor, Allied Health Careers Specialties, RT(R), Ph.D., Southern Illinois University, 1987.
- Kimondollo, Pius**, Adjunct Instructor, Dental Technology, CDT.
- Laake, Dennis J.**, Associate Professor, Dental Technology, CDT, M.S.Ed., Southern Illinois University, 1973.
- Lawson, Carolyn**, Visiting Instructor, Dental Hygiene, RDH, B.S., Southern Illinois University, 1985.
- Marx, Bonnie**, Adjunct Instructor, Allied Health and Public Services.
- McMurry, William S.**, Visiting Associate Professor, *Emeritus*, Dental Hygiene, D.D.S., University of Missouri, 1950.
- Meister, John F.**, Adjunct Instructor, Allied Health Careers Specialties.
- Moberly, Michael**, Assistant Professor, Law Enforcement, M.A., Indiana University, 1981.
- Morgan, Frederic L.**, Associate Professor and *Director*, Allied Health and Public Services Division, Ed.D., Ball State University, 1969.
- Okita, Ted Y.**, Associate Professor, *Emeritus*, Physical Therapist Assistant, RPT, M.A., Northwestern University, 1964.
- Pape, Carolyn D.**, Assistant Professor, Physical Therapist Assistant, RPT, M.S., Southern Illinois University, 1983.
- Paulk, Marilyn**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University, 1987.
- Pearson, Stanley**, Assistant Professor, Allied Health Careers Specialties, RRT, M.S., Southern Illinois University, 1986.
- Poston, George H.**, Associate Professor, Mortuary Science and Funeral Service, Ph.D., Southern Illinois University, 1987.
- Rogers, Janet L.**, Assistant Professor, Physical Therapist Assistant, M.S., Southern Illinois University, 1985.
- Szekely, Rosanne**, Assistant Professor, Allied Health Careers Specialties, RT(R), M.S., Southern Illinois University, 1989.
- Tiebout, Leigh**, Assistant Professor, Dental Technology, CDS, M.S., Southern Illinois University, 1988.
- Wachter, Kendall M.**, Staff Dentist, Dental Hygiene, D.M.D., Southern Illinois University at Edwardsville, 1986.
- Westphal, Dwight**, Assistant Professor, Dental Laboratory Technology, CDT, B.S., Southern Illinois University, 1977.

Winings, John R., Associate Professor, Dental Laboratory Technology, M.A., Governors State University, 1972.

Youssef, Tawfik, Adjunct Associate Professor, Allied Health Careers Specialties, M.D.

Animal Science (College of Agriculture)

Arthur, Robert D., Professor and *Chairperson*, Ph.D., University of Missouri, 1970.

Goodman, Bill L., Professor, Ph.D., Ohio State University, 1959.

Hausler, Carl L., Associate Professor, Ph.D., Purdue University, 1970.

Hinners, Scott W., Professor, *Emeritus*, Ph.D., University of Illinois, 1958.

Kammlade, W. G., Jr., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

King, Sheryl S., Assistant Professor, Ph.D., University of California at Davis, 1984.

Kroening, Gilbert H., Professor, Ph.D., Cornell University, 1965.

Olson, Howard H., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.

Strack, Louis E., Associate Professor, D.V.M., University of Illinois, 1961.

Woody, H. Dee., Associate Professor, Ph.D., Michigan State University, 1978.

Young, Anthony W., Professor, Ph.D., University of Kentucky, 1969.

Anthropology (College of Liberal Arts)

Adams, Jane, Assistant Professor, Ph.D., University of Illinois, 1987.

Bender, M. Lionel, Professor, Ph.D., University of Texas at Austin, 1968.

Butler, Brian M., Adjunct Assistant Professor, Ph.D., Southern Illinois University, 1977.

Corruccini, Robert S., Professor, Ph.D., University of California at Berkeley, 1975.

Dark, Philip J. C., Professor, *Emeritus*, Ph.D., Yale University, 1954.

Ford, Susan M., Associate Professor, Ph.D., University of Pittsburgh, 1980.

Gumerman, George J., Professor, Ph.D., University of Arizona, 1969.

Handler, Jerome S., Professor, Ph.D., Brandeis University, 1965.

Hill, Jonathan, Assistant Professor, Ph.D., Indiana University, 1983.

Kelley, J. Charles, Professor, *Emeritus*, Ph.D., Harvard University, 1948.

Maring, Ester G., Assistant Professor, Ph.D., Indiana University, 1969.

Maring, Joel M., Associate Professor, Ph.D., Indiana University, 1967.

Muller, Jon D., Professor and *Chairperson*, Ph.D., Harvard University, 1967.

Rands, Robert L., Professor, Ph.D., Columbia University, 1952.

Riley, Carroll L., Distinguished Professor, *Emeritus*, Ph.D., University of New Mexico, 1952.

Taylor, Walter W., Professor, *Emeritus*, Ph.D., Harvard University, 1943.

Teltser, Patrice A., Assistant Professor, Ph.D., University of Washington, 1988.

Applied Technologies (College of Technical Careers)

Beauchamp, Clarence, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, Stout, 1949.

Cash, Joe R., Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University, 1970.

Collard, Rodney, Instructor, Automotive Technology, Southern Illinois University, B.S., 1977.

Crenshaw, J. Howard, Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

Greer, Jack, Assistant Professor, Automotive Technology, B.S., Southern Illinois University, 1974.

Harbison, James L., Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

Ingram, Mark B., Visiting Instructor, Automotive Technology, A.A.S., Southern Illinois University, 1986.

Jones, Paul, Instructor, *Emeritus*, Automotive Technology.

Kazda, Joseph G., Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University, 1965.

Lampman, Duncan, Associate Professor, *Emeritus*, Construction Technology and Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1956.

McDonald, James H., Instructor, *Emeritus*, Automotive Technology, B.S.Ed., Central Missouri State University, 1948.

Morris, Michael, Instructor, Automotive Technology, A.A.S., Texas State Technical Institute, 1973.

- Muhich, Frank W.**, Associate Professor, *Emeritus*, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1957.
- Naas, James**, Assistant Professor, Construction Technology, M.S., Southern Illinois University, 1983.
- Osborn, Harold W.**, Assistant Professor, *Emeritus*, Construction Technology, M.S.Ed., Southern Illinois University, 1960.
- Romack, Charles**, Assistant Professor, Automotive Technology, B.S., Southern Illinois University, 1965.
- Runkle, Lewis C.**, Assistant Professor, *Emeritus*, Automotive Technology, B.S., Southern Illinois University, 1965.
- Sanders, Eugene**, Assistant Professor, Tool and Manufacturing Technology, B.S., Southern Illinois University, 1956.
- Schultz, James R.**, Instructor, Tool and Manufacturing Technology, B.S., Southern Illinois University, 1982.
- Simpson, Jerry**, Assistant Professor, Automotive Technology, M.S., Colorado State University, 1966.
- Soderstrom, Harry R.**, Professor, *Emeritus*, Tool and Manufacturing Technology, M.S., Bradley University, 1952.
- Staley, Glenn Lamb**, Instructor, *Emeritus*, Construction Technology, M.S., Southern Illinois University, 1976.
- Traylor, George Lelon**, Associate Professor, *Emeritus*, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1965.
- Tregoning, Philip**, Assistant Professor, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University, 1965.
- White, James E.**, Assistant Professor, Director, Automotive Technology, B.S.Ed., Southern Illinois University, 1961.

Army Military Science

- Corsette, Richard H.**, CPT, Adjunct Assistant Professor, B.S., Eastern Michigan University, 1980.
- Hinrichs, William P.**, CPT, Adjunct Assistant Professor, B.S., University of Wisconsin-Whitewater, 1981.
- Kimberly, Richard H.**, MSG, Adjunct Instructor.
- King, Kenneth M.**, CPT, Adjunct Assistant Professor, B.A., University of Minnesota, 1980.
- Kuehl, Richard D.**, LTC, Adjunct Professor and *Chairperson*, M.P.S., Western Kentucky University, 1982.
- Morel, Thomas O.**, SGT, Adjunct Instructor.
- Pruett, Bobby G.**, SGM, Adjunct Assistant Professor.
- Reaser, Dennis H.**, MAJ, Adjunct Assistant Professor, M.A., Webster University, 1985.
- Vavrin, John L.**, CPT, Adjunct Assistant Professor, B.S., United States Military Academy, 1981.
- Walker, Carrie E.**, SSG, Adjunct Instructor.

Art and Design (College of Communications and Fine Arts)

- Abrahamson, Roy E.**, Associate Professor, Ed.D., Columbia University, 1965.
- Addington, Aldon M.**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1966.
- Archer, Richard E.**, Assistant Professor, M.S., Governors State University, 1979.
- Bernstein, Lawrence A.**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1953.
- Bhattacharya, Sunand**, Assistant Professor, M.A., Ohio State University, 1987.
- Boysen, Bill H.**, Associate Professor, M.F.A., University of Wisconsin, 1966.
- Briggs, Larry S.**, Associate Professor, B.F.A., University of Oklahoma, 1956.
- Busch, W. Larry**, Associate Professor, M.S., Southern Illinois University, 1970.
- Chapman, Gretel**, Associate Professor, Ph.D., University of Chicago, 1964.
- Deller, Harris**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1973.
- Feldman, Joel B.**, Associate Professor, M.F.A., Indiana University, 1967.
- Fink, Herbert L.**, Distinguished Professor, M.F.A., Yale University, 1958.
- Greenfield, Sylvia R.**, Professor, M.F.A., University of Colorado, 1967.
- Kington, L. Brent**, Professor and *Director*, M.F.A., Cranbrook Academy of Art, 1961.
- Lawson, Elnora**, Instructor, *Emerita*, B.Ed., Southern Illinois University, 1936.
- Lintault, M. Joan**, Professor, M.F.A., Southern Illinois University, 1962.
- Mavigliano, George J.**, Associate Professor, M.A., Northern Illinois University, 1967.
- Mawdsley, Richard**, Professor, M.F.A., University of Kansas, 1969.
- Onken, Michael O.**, Associate Professor, M.A., Northern Illinois University, 1966.
- Paulson, Robert L.**, Professor, M.F.A., University of Wisconsin, 1967.

Saunders, Ann, Assistant Professor, M.F.A., Syracuse University, 1984.
Shay, Edward Holden, Professor, M.F.A., University of Illinois, 1971.
Sullivan, James E., Associate Professor, M.A., University of California at Los Angeles, 1965.
Sullivan, Milton F., Professor, *Emeritus*, M.A., Columbia University, 1951.
Walsh, Thomas J., Professor, M.F.A., University of Michigan, 1962.
Wells, David, Assistant Professor, M.A., Ohio State University, 1987.
Wood, Dan D., Associate Professor, M.A., University of Iowa, 1968.
Youngblood, Michael S., Associate Professor, Ph.D., University of Oregon, 1975.

Aviation Technologies (College of Technical Careers)

Birkhead, Larry M., Assistant Professor and *Coordinator*, Avionics Technology, M.S., Southern Illinois University, 1986.
Cannon, Richard H., Assistant Professor, Aviation Maintenance Technology, B.S., Southern Illinois University, 1982.
Cotter, John D., Instructor, Aviation Maintenance Technology, B.S., Southern Illinois University, 1976.
Eiff, Gary Marvin, Assistant Professor, Avionics Technology, M.S., Southern Illinois University, 1984.
Kolkmeier, Robert O., Associate Professor, Aviation Maintenance Technology, M.S.Ed., Southern Illinois University, 1971.
Milton, William C., Instructor, Aviation Maintenance Technology, M.S., Southern Illinois University, 1986.
Most, Michael T., Assistant Professor, Aviation Maintenance Technology, M.A., Central Washington University, 1974.
O'Brian, Benjamin H., Assistant Professor, Aviation Maintenance Technology, M.S., Southern Illinois University, 1985.
Ohman, Lennert R., Assistant Professor, Aviation Maintenance Technology, B.S., University of Illinois, 1964.
Rodriguez, Charles L., Assistant Professor, Aviation Maintenance Technology, M.S.Ed., Southern Illinois University, 1987.
Russell, Lewis Glen, Assistant Professor, Avionics Technology, M.S.Ed., Southern Illinois University, 1978.
Sanders, Robert F., Assistant Professor, Aviation Maintenance Technology, M.S.Ed., Southern Illinois University, 1986.
Schafer, Joseph Allen, Associate Professor and *Director*, Aviation Technologies Division, B.S., Lewis College, 1960.
Staples, Laurence C., Assistant Professor and *Coodinator*, Aviation Maintenance Technology, B.S., Southern Illinois University, 1975.
Verner, Gerry D., Assistant Professor, Aviation Maintenance Technology, B.S., Southern Illinois University, 1973.

Botany (College of Science)

Ashby, William C., Professor, Ph.D., University of Chicago, 1950.
Bissing, Donald R., Assistant Professor, Ph.D., Claremont Graduate School, 1976.
Bozzola, John J., Associate Professor, Ph.D., Southern Illinois University, 1975.
Clark, Kathleen A., Assistant Professor, Ph.D., University of Kansas, 1983.
Crandall-Stotler, Barbara C., Professor, Ph.D., University of Cincinnati, 1968.
Matten, Lawrence C., Professor, Ph.D., Cornell University, 1965.
Mohlenbrock, Robert H., Distinguished Professor, Ph.D., Washington University, 1957.
Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934.
Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957.
Robertson, Philip A., Associate Professor, Ph.D., Colorado State University, 1968.
Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961.
Stotler, Raymond E., Associate Professor, Ph.D., University of Cincinnati, 1968.
Sundberg, Walter J., Associate Professor, Ph.D., University of California, 1971.
Tindall, Donald R., Professor and *Chairperson*, Ph.D., University of Louisville, 1966.
Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966.
Verduin, Jacob, Professor, *Emeritus*, Ph.D., Iowa State University, 1947.
Voigt, John W., Professor, Ph.D., University of Nebraska, 1950.
Yopp, John H., Professor, Ph.D., University of Louisville, 1969.

Chemistry and Biochemistry (College of Science)

Arnold, Richard T., Professor, *Emeritus*, Ph.D., University of Illinois, 1937.
Bausch, Mark J., Assistant Professor, Ph.D., Northwestern University, 1984.
BeMiller, James N., Adjunct Professor, Ph.D., Purdue University, 1959.
Beyler, Roger E., Professor, *Emeritus*, Ph.D., University of Illinois, 1949.
Bolen, D. Wayne, Professor, Ph.D., Florida State University, 1969.
Brown, George E., Professor, *Emeritus*, Ph.D., Iowa State University, 1941.
Carle, Glenn C., Adjunct Assistant Professor, B.S., California State Polytechnic University, 1963.
Caskey, Albert L., Associate Professor, Ph.D., Iowa State University, 1961.
Davis, Joe M., Assistant Professor, Ph.D., University of Utah, 1985.
Gaston, Ricky D., Assistant Professor, Ph.D., Indiana University, 1987.
Groziak, Michael P., Assistant Professor, Ph.D., Northwestern University, 1983.
Gupta, Ramesh, Associate Professor, Ph.D., University of Illinois, 1981.
Guyon, John C., Professor, Ph.D., Purdue University, 1961.
Hadler, Herbert I., Professor, Ph.D. University of Wisconsin, 1952.
Hadley, Elbert H., Professor, *Emeritus*, Ph.D., Duke University, 1940.
Hall, J. Herbert, Professor, Ph.D., University of Michigan, 1959.
Hardwicke, Peter M.D., Associate Professor, Ph.D., Kings College, London, 1969.
Hinckley, Conrad C., Professor, Ph.D., University of Texas, 1964.
Koropchak, John A., Assistant Professor, Ph.D., University of Georgia, 1980.
Koster, David F., Professor, Ph.D., Texas A & M University, 1965.
Lewis-Bevan, Wyn, Assistant Professor, Ph.D., Cambridge University, 1983.
Meyers, Cal Y., Distinguished Professor, Ph.D., University of Illinois, 1951.
Neckers, J. W., Professor, *Emeritus*, Ph.D., University of Illinois, 1927.
Phillips, John B., Associate Professor, Ph.D., University of Arizona, 1977.
Scheiner, Steven I., Professor, Ph.D., Harvard University, 1976.
Schmit, Joseph, Associate Professor, Ph.D., Purdue University, 1971.
Schmulbach, C. David, Professor, Ph.D., University of Illinois, 1958.
Shriver, John W., Associate Professor, Ph.D., Case Western University, 1977.
Smith, Gerard V., Professor, Ph.D., University of Arkansas, 1959.
Trimble, Russell F., Professor, Ph.D., Massachusetts Institute of Technology, 1951.
Tyrrell, James, Professor and *Chairperson*, Ph.D., University of Glasgow, 1963.
Van Lente, Kenneth A., Professor, *Emeritus*, Ph.D., University of Michigan, 1931.
Woodruff, Michael L., Assistant Professor, Ph.D., University of Wisconsin, 1978.
Wotiz, John H., Professor, *Emeritus*, Ph.D., Ohio State University, 1948.

Cinema and Photography (College of Communications and Fine Arts)

Blumenberg, Richard M., Professor, Ph.D., Ohio University, 1969.
Boruszkowski, Lilly A., Associate Professor, M.F.A., Northwestern University, 1979.
Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969.
Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975.
Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969.
Horrell, C. William, Professor, *Emeritus*, Ed.D., Indiana University, 1955.
Kolb, Gary P., Associate Professor, M.F.A., Ohio University, 1977.
Mercer, John, Professor, *Emeritus*, University of Nebraska, 1952.
Paine, Frank, Associate Professor, *Emeritus*, B.S., Iowa State University, 1950.
Powell, W. Duane, Assistant Professor, M.F.A., University of Illinois, 1977.
Roddy, Jan, Assistant Professor, M.F.A., University of Illinois, 1987.
Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961.
Williams, Tony, Assistant Professor, Ph.D., University of Manchester, 1974.

Civil Engineering and Mechanics (College of Engineering and Technology)

Cook, Echol E., Professor, Ph.D., Oklahoma State University, 1970.
Craddock, James N., Associate Professor, Ph.D., University of Illinois at Urbana-Champaign, 1979.

Das, Braja M., Professor and *Chairperson*, Ph.D., University of Wisconsin, 1972.
Davis, Philip, Professor, Ph.D., University of Michigan, 1963.
DeVantier, Bruce, Associate Professor, Ph.D., University of California at Davis, 1983.
Evers, James, Associate Professor, Ph.D., University of Alabama, 1969.
Kassimali, Aslam, Associate Professor, Ph.D., University of Missouri, 1976.
Nowacki, C. Raymond, Associate Professor, Ph.D., University of Illinois at Urbana-Champaign, 1965.
Ponce-Campos, C. David, Associate Professor, Ph.D., University of Michigan, 1978.
Puri, Vijay K., Assistant Professor, Ph.D., University of Missouri at Rolla, 1984.
Ray, Bill T., Assistant Professor, Ph.D., University of Missouri at Rolla, 1984.
Rubayi, Najim, Professor, Ph.D., University of Wisconsin, 1966.
Sami, Sedat, Professor, Ph.D., University of Iowa, 1966.
Wright, Maurice A., Professor, Ph.D., University of Wales, 1962.
Yen, Shing-Chung, Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1984.

College of Education Student Services

Buser, Margaret, Assistant Professor, *Assistant Coordinator*, Professional Education Experiences, M.S.Ed., Indiana University, 1966.
Keiper, Robert W., Lecturer, Ed.D., University of Northern Colorado at Greeley, 1984.
McIntyre, D. John, Professor, *Director*, Teaching Skills Laboratory, Ed.D., Syracuse University, 1977.
Moore, Eryn E., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1976.
Norris, William R., Associate Professor, *Coordinator*, Professional Education Experiences, Ed.D., Indiana University, 1974.
Rogers, Shirley M., Assistant Professor, M.S. Ed., Southern Illinois University, 1961.
Turner, Doris Sewell, Lecturer, *Emerita*, M.S. Ed., Southern Illinois University, 1949.

Communication Disorders and Sciences (College of Communications and Fine Arts)

Anderson, John O., Professor, *Emeritus*, Ph.D., Ohio State University, 1950.
Blache, Stephen E., Associate Professor, Ph.D., Ohio State University, 1970.
Brackett, I. P., Professor, *Emeritus*, Ph.D., Northwestern University, 1947.
Brutten, Gene J., Professor and *Chairperson*, Ph.D., University of Illinois, 1957.
Gouzalez, Lori S., Assistant Professor, Ph.D., University of Florida, 1989.
Hoshiko, Michael S., Professor, Ph.D., Purdue University, 1957.
Lehr, Robert, Associate Professor, Ph.D., Baylor University, 1971.
Robey, Randall R., Assistant Professor, Ph.D., Ohio University, 1985.
Ruder, Kenneth F., Professor, Ph.D., University of Florida, 1969.
Schultz, Martin C., Professor, Ph.D., University of Iowa, 1955.

Community Development

Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, India, 1969.
Denise, Paul S., Assistant Professor, Ph.D., University of California at Berkeley, 1974.
Dorn, Jared H., Adjunct Associate Professor, Ph.D., Southern Illinois University, 1973.
Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971.
Miller, Harry George, Professor, Ed.D., University of Nebraska, 1970.
Perk, H. F. W., Lecturer, A.B., University of California at Los Angeles, 1951.
Poston, Richard W., Professor, *Emeritus*, B.A., University of Montana, 1940.

Computer Science (College of Liberal Arts)

Crawford, Albert, Assistant Professor, Ed.D., Oklahoma State University, 1970.
Danhof, Kenneth J., Professor, Ph.D., Purdue University, 1969.
Dinsmore, John, Assistant Professor, Ph.D., University of California at San Diego, 1979.
Gupta, Bidyut, Assistant Professor, Ph.D., University of Calcutta, 1986.

Hou, Wen-Chi, Assistant Professor, Ph.D., Case Western Reserve University, 1989.
 Koschmann, Timothy D., Assistant Professor, Ph.D., Illinois Institute of Technology, 1987.
 Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947.
 McGlinn, Robert, Associate Professor, Ph.D., Southern Illinois University, 1976.
 Phillips, Nicholas C. K., Associate Professor, Ph.D., University of Natal, 1967.
 Srimani, Pradip, Professor, Ph.D., University of Calcutta, 1978.
 Varol, Yaakov, Professor and *Chairperson*, Ph.D., University of Wyoming, 1971.
 Wainer, Michael S., Assistant Professor, Ph.D., University of Alabama, 1987.
 Wallis, Walter, Professor, Ph.D., University of Sydney, 1967.
 Wright, William E., Associate Professor, D.Sc., Washington University, 1972.
 Zargham, Mehdi R., Assistant Professor, Ph.D., Michigan State University, 1983.

Curriculum and Instruction (College of Education)

Aikman, Arthur L., Professor, Ph.D., Southern Illinois University, 1965.
 Alston, Melvin O., Professor, *Emeritus*, Ed.D., Columbia University, 1945.
 Appleby, Bruce C., Professor, Ph.D., University of Iowa, 1967.
 Barrette, Pierre, Associate Professor, Ed.D., University of Massachusetts, 1971.
 Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978.
 Becker, Jerry P., Professor, Ph.D., Stanford University, 1967.
 Bedient, Douglas, Professor, Ph.D., Southern Illinois University, 1971.
 Boykin, Arsene O., Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964.
 Bradfield, Joyce M., Instructor, *Emerita*, M.A., George Peabody College for Teachers, 1946.
 Bradfield, Luther E., Professor, *Emeritus*, Ed.D., Indiana University, 1953.
 Brod, Ernest E., Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1953.
 Brown, Bill, Instructor, *Emeritus*, M.Ed., University of Missouri, 1946.
 Buser, Margaret, Assistant Professor, M.S.Ed., Indiana University, 1966.
 Butts, Gordon K., Professor, *Emeritus*, Ed.D., Indiana University, 1956.
 Campbell, James A., Assistant Professor, Ph.D., Ohio State University, 1978.
 Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963.
 Copenhaver, Ron W., Associate Professor, Ed.D., Indiana University, 1978.
 Coscarelli, William, Associate Professor, Ph.D., Indiana University, 1977.
 Cox, Dorothy, Assistant Professor, Ph.D., Southern Illinois University, 1976.
 Dale, Doris C., Professor, D.L.S., Columbia University, 1968.
 DeWeese, Jewel V., Instructor, *Emerita*, M.S.Ed., Southern Illinois University, 1971.
 Dixon, Billy G., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1967.
 Eddleman, E. Jacqueline, Associate Professor, Ph.D., Southern Illinois University, 1970.
 Edwards, Troy W., Professor, *Emeritus*, Ed.D., Indiana University, 1954.
 Eichholz, Barbara, Lecturer, Ph.D., Southern Illinois University, 1986.
 Erickson, Lawrence, Professor, Ph.D., University of Wisconsin, 1972.
 Grace, Barbara E., Lecturer, M.S., Southern Illinois University, 1985.
 Gulley, S. Beverly, Associate Professor, Ph.D., Southern Illinois University, 1974.
 Hill, Margaret K., Professor, *Emerita*, Ed.D., Boston University, 1948.
 Hungerford, Harold R., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.
 Jacko, Carol, Associate Professor, Ph.D., University of Pittsburgh, 1974.
 Jackson, James, Associate Professor, Ph.D., University of Wisconsin, 1976.
 Jackson, Michael, Associate Professor, Ed.D., University of Florida, 1971.
 Jones, Dan R., Associate Professor, Ed.D., Indiana University, 1978.
 Jones, Jennie Y., Assistant Professor, A.M., University of Illinois, 1949.
 Karmos, Ann, Associate Professor, Ph.D., Southern Illinois University, 1975.
 Killian, Joyce E., Associate Professor, Ph.D., Pennsylvania State University, 1980.
 Klasek, Charles B., Professor, Ph.D., University of Nebraska, 1971.
 Lacey, Jerome, Assistant Professor, Ph.D., Southern Illinois University, 1975.
 Lamb, Morris L., Associate Professor, Ed.D., University of Oklahoma, 1970.
 Leming, James, Professor, Ph.D., University of Wisconsin, 1973.
 Lindberg, Dormalee H., Professor, Ed.D., University of Missouri, Columbia, 1969.
 Lipsey, William, Lecturer, *Emeritus*, Ed.D., Northwestern University, 1952.
 Malone, Willis E., Professor, *Emeritus*, Ph.D., Ohio State University, 1950.
 Matthias, Margaret, Associate Professor, Ph.D., Southern Illinois University, 1972.
 McIntyre, D. John, Professor, Ed.D., Syracuse University, 1977.
 Meyer, Edra T., Instructor, *Emerita*, M.S., Southern Illinois University, 1956.
 Moberly, Deborah, Lecturer, M.S., Southern Illinois University, 1984.
 Moore, Eryn E., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1976.
 Nelson, JoAnn, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1980.
 Norris, William, Associate Professor, Ed.D., Indiana University, 1973.

Paige, Donald D., Professor, Ed.D., Indiana University, 1966.
 Pape, Sharon, Assistant Professor, Ph.D., Ohio State University, 1988.
 Pearlman, Susan F., Assistant Professor, Ph.D., University of Missouri, 1987.
 Ponton, Melva F., Assistant Professor, *Emerita*, M.S., University of Illinois, 1951.
 Pope, Cedric A., Assistant Professor, *Emeritus*, Ed.D., University of Northern Colorado, 1959.
 Pultorak, Edward Jr., Assistant Professor, Ph.D., Indiana State University, 1988.
 Quisenberry, James D., Associate Professor, Ph.D., Indiana University, 1972.
 Quisenberry, Nancy L., Professor, Ed.D., Indiana University, 1971.
 Randolph, Victor, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942.
 Rogers, Shirley M., Assistant Professor, M.S.Ed., Southern Illinois University, 1961.
 Samford, Clarence, Professor, *Emeritus*, Ph.D., New York University, 1940.
 Seiferth, Berniece B., Professor, *Emerita*, Ed.D., University of Missouri, 1955.
 Shelton, Vivian H., Assistant Professor, M.S.Ed., Southern Illinois University, 1965.
 Shepherd, Terry R., Associate Professor, Ph.D., University of Illinois, 1971.
 Shrock, Sharon A., Associate Professor, Ph.D., Indiana University, 1979.
 Sloan, Fred A., Professor, Ed.D., George Peabody College of Vanderbilt University, 1959.
 Smith, Lynn C., Assistant Professor, Ph.D., University of Georgia, 1984.
 Solliday, Michael, Associate Professor, Ph.D., Southern Illinois University, 1975.
 Spigle, Irving S., Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955.
 Starbuck, Sara, Lecturer, M.S., Southern Illinois University, 1985.
 Stephens, Clarence, Professor, *Emeritus*, Ed.D., Indiana University, 1955.
 Treece, Madelyn, Assistant Professor, *Emerita*, A.M., University of Chicago, 1936.
 Volk, Gertrude L., Lecturer, Ph.D., Southern Illinois University, 1983.
 Wendt, Paul R., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.
 Wood, Ruth B., Instructor, *Emerita*, M.S., University of Illinois, 1948.

Economics (College of Liberal Arts)

Edelman, Milton T., Professor, *Emeritus*, Ph.D., University of Illinois, 1951.
 Ellis, Robert J., Jr., Associate Professor, Ph.D., University of Virginia, 1966.
 Fare, Rolf, Professor, Docent., University of Lund, 1976.
 Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1971.
 Grabowski, Richard, Associate Professor, Ph.D., University of Utah, 1977.
 Grosskopf, Shawna, Professor, Ph.D., Syracuse University, 1977.
 Hand, George H., Professor, *Emeritus*, Ph.D., Princeton University, 1939.
 Hickman, C. Addison, Professor, *Emeritus*, Vandever Chair of Economics, Ph.D., University of Iowa, 1942.
 Kim, Yoonbai, Assistant Professor, Ph.D., Stanford University, 1985.
 Layer, Robert G., Professor, *Emeritus*, Ph.D., Harvard University, 1952.
 Mitchell, Thomas, Assistant Professor, Ph.D., Brown University, 1983.
 Morrison, Vernon G., Professor, *Emeritus*, Ph.D., University of Nebraska, 1961.
 Myers, John G., Professor, Ph.D., Columbia University, 1961.
 Norris, Mary, Assistant Professor, Ph.D., University of Maryland, 1985.
 Primont, Daniel A., Professor, Ph.D., University of California at Santa Barbara, 1970.
 Sawyer, Carl, Assistant Professor, Ph.D., University of Michigan, 1985.
 Sharma, Subhash, Associate Professor, Ph.D., University of Kentucky, 1983.
 Shields, Michael P., Associate Professor, Ph.D., University of Utah, 1975.
 Takayama, Akira, Professor, Vandever Chair of Economics, Ph.D., University of Rochester, 1962.
 Trescott, Paul B., Professor, Ph.D., Princeton University, 1954.
 Wiegand, G. C., Professor, *Emeritus*, Ph.D., Northwestern University, 1950.

Educational Administration and Higher Education

(College of Education)

Adams, Frank C., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1962.
 Bach, Jacob O., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1951.
 Bracewell, George, Professor, *Emeritus*, Ed.D., Washington University, 1952.
 Brammell, Paris R., Professor, *Emeritus*, Ph.D., University of Washington, 1930.
 Bryant, Royce R., Professor, *Emeritus*, D.Ed., Washington University, 1952.
 Buser, Robert L., Professor, Ed.D., Indiana University, 1966.
 Caldwell, Oliver J., Professor, *Emeritus*, M.S., Oberlin College, 1927.

- Casebeer, Arthur L., Professor, Ed.D., Oregon State University, 1963.
 Clark, Elmer J., Professor, *Emeritus*, Ph.D., University of Michigan, 1949.
 Davis, I. Clark, Professor, *Emeritus*, Ed.D., Indiana University, 1956.
 Dennis, Lawrence J., Professor, Ph.D., Southern Illinois University, 1968.
 Duff, Grace H., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.
 Eaton, William E., Professor and *Chairperson*, Ph.D., Washington University, 1971.
 Evans, John, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1968.
 Fishback, Woodson W., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1947.
 Goldman, Samuel, Professor, Ph.D., University of Chicago, 1961.
 Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
 Grinnell, John E., Professor, *Emeritus*, Stanford University, 1934.
 Hall, James H., Associate Professor, *Emeritus*, Ed.D., George Washington University, 1950.
 Hawley, John B., Professor, *Emeritus*, Ph.D., University of Michigan, 1957.
 Jacobs, Robert, Professor, *Emeritus*, Ed.D., Wayne State University, 1949.
 Jung, Loren B., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969.
 Kaiser, Dale E., Professor, *Emeritus*, Ph.D., University of Illinois, 1963.
 Keene, Roland, Professor, *Emeritus*, Ph.D., Washington University, 1962.
 Keim, Marybelle C., Assistant Professor, Ph.D., Michigan State University, 1972.
 King, John E., Professor, *Emeritus*, Ph.D., Cornell University, 1941.
 Lean, Arthur E., Professor, *Emeritus*, Ph.D., University of Michigan, 1948.
 Loucks, Hazel H., Assistant Professor, Ph.D., Saint Louis University, 1987.
 Matthias, William, Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964.
 McKenzie, William R., Professor, *Emeritus*, Ed.D., University of Denver, 1953.
 Merwin, Bruce W., Professor, *Emeritus*, Ph.D., University of Kansas, 1929.
 Miller, Harry G., Professor, Ed.D., University of Nebraska, 1970.
 Moore, Malvin E., Professor, *Emeritus*, Ed.D., George Peabody College for Teachers, 1959.
 Morrill, Paul H., Professor, *Emeritus*, Ph.D., Northwestern University, 1956.
 Neal, Charles D., Professor, *Emeritus*, Ed.D., Indiana University, 1948.
 Pettit, Lawrence K., Professor, Ph.D., University of Wisconsin, 1965.
 Sasse, Edward B., Professor, Ph.D., University of Wisconsin, 1966.
 Shelton, William E., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1950.
 Spees, Emil R., Associate Professor, Ph.D., Claremont Graduate School, 1969.
 Stuck, Dean, Professor, Ph.D., Iowa State University, 1968.
 Tolle, Donald J., Professor, *Emeritus*, Ed.D., Florida State University, 1957.
 Verduin, John R., Jr., Professor, Ph.D., Michigan State University, 1962.
 Warren, F. G., Professor, *Emeritus*, A.M., University of Chicago, 1928.
 Wohlwend, Herbert W., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1964.

Educational Psychology (College of Education)

- Altekruse, Michael K., Professor, Ed.D., Indiana University, 1967.
 Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University, 1972.
 Beggs, Donald L., Professor, Ph.D., University of Iowa, 1966.
 Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968.
 Brown, Beverly, Associate Professor, Ph.D., University of Iowa, 1974.
 Cody, John J., Professor and *Chairperson*, Ph.D., University of Wisconsin, 1961.
 Daniels, M. Harry, Associate Professor, Ph.D., University of Iowa, 1978.
 Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969.
 DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959.
 Dillon-Sumner, Ronna, Professor, Ph.D., University of California at Riverside, 1978.
 Elmore, Patricia B., Professor, Ph.D., Southern Illinois University, 1970.
 Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
 Grenfell, John E., Professor, Ed.D., Oregon State University, 1966.
 Karmos, Joseph, Visiting Professor, Ph.D., Southern Illinois University, 1974.
 Kelly, Francis J. Professor, Ph.D., University of Texas, 1963.
 Leitner, Dennis, Associate Professor, Ph.D., University of Maryland, 1975.
 Lewis, Ernest, Professor, Ph.D., Southern Illinois University, 1971.
 Mouw, John T., Professor, Ed.D., University of South Dakota, 1968.
 Pohlmann, John T., Professor, Ph.D., Southern Illinois University, 1972.
 Prichard, Karen K., Associate Professor, Ph.D., Kent State University, 1981.
 Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.
 Snowman, Jack, Professor, Ph.D., Indiana University, 1975.
 White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969.
 White, Lyle J., Assistant Professor, Ph.D., University of Iowa, 1988.
 Woehlke, Paula L., Associate Professor, Ph.D., Arizona State University, 1973.
 Yates, J. W., Professor, Ed.D., University of Missouri, Columbia, 1951.

Electrical Engineering (College of Engineering and Technology)

- Birmiwai, Kailash, Assistant Professor, Ph.D., University of Connecticut, 1988.
 Botros, Nazeih, Assistant Professor, Ph.D., University of Oklahoma, 1985.
 Brown, David P., Professor, Ph.D., Michigan State University, 1961.
 Daneshdoost, Morteza, Associate Professor, Ph.D., Drexel University, 1984.
 Dhali, Shirshak, Associate Professor, Ph.D., Texas Tech University, 1984.
 Feiste, Vernold K., Associate Professor, Ph.D., University of Missouri at Columbia, 1966.
 Galanos, Glafkos, Professor and *Chairperson*, University of Manchester, England, 1970.
 Goben, Charles A., Professor, Ph.D., Iowa State University, 1965.
 Gupta, Lalit, Assistant Professor, Ph.D., Southern Methodist University, 1986.
 Han, Jia-Yuan, Assistant Professor, Ph.D., Ohio State University, 1985.
 Hatziaodoniu, C., Lecturer, Ph.D., West Virginia University, 1988.
 Hu, C. J., Professor, Ph.D., University of Colorado-Boulder, 1966.
 Hui, Su, Instructor, M.E., Academy of Posts and Telecommunications Technology and Science of China, 1986.
 Manzoul, Mahmoud, Assistant Professor, Ph.D., West Virginia University, 1985.
 Margon, Irving, Visiting Assistant Professor, M.S., University of Southern California—Los Angeles, 1948.
 Pourboghtrah, Farzad, Assistant Professor, Ph.D., University of Iowa, 1984.
 Purcell, Kay, Visiting Instructor, M.S., Southern Illinois University, 1978.
 Rawlings, Charles A., Associate Professor, Ph.D., Southern Illinois University, 1974.
 Sayeh, Mohammad, Assistant Professor, Ph.D., Oklahoma State University, 1985.
 Schoen, Alan, Professor, Ph.D., University of Illinois, 1958.
 Smith, James G., Professor, Ph.D., University of Missouri at Rolla, 1967.
 Suliman, Mamoun, Visiting Instructor, M.Sc., Cranfield Institute of Technology, England, 1981.
 Thomopoulos, Stelios, Associate Professor, Ph.D., State University of New York at Buffalo, 1983.
 Viswanathan, R., Associate Professor, Ph.D., Southern Methodist University, 1983.

English (College of Liberal Arts)

- Appleby, Bruce C., Professor, Ph.D., University of Iowa, 1967.
 Benziger, James G., Professor, *Emeritus*, Ph.D., Princeton University, 1941.
 Blakesly, David, Assistant Professor, Ph.D., University of Southern California, 1989.
 Boyd, Timothy W., Assistant Professor, Ph.D., Princeton University, 1987.
 Brown, William J., Associate Professor, Ph.D., Duke University, 1966.
 Burns, Winifred, Assistant Professor, *Emerita*, M.A., University of Illinois, 1933.
 Clark, Martha, Instructor, *Emerita*, A.M., Southern Illinois University, 1953.
 Cohn, Alan Martin, Professor, M.S., University of Illinois, 1955.
 Collins, K. K., Associate Professor, Ph.D., Vanderbilt University, 1976.
 Dodd, Diana L., Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1954.
 Donow, Herbert S., Professor, Ph.D., University of Iowa, 1966.
 Elfenbein, Anna, Associate Professor, Ph.D., University of Nebraska, 1979.
 Friend, Jewell A., Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.
 Goodin, George V., Associate Professor, Ph.D., University of Illinois, 1962.
 Griffin, Robert P., Associate Professor, *Emeritus*, Ph.D., University of Connecticut, 1965.
 Hatton, Thomas J., Associate Professor, Ph.D., University of Nebraska, 1966.
 Hays, Donald S., Assistant Professor, M.F.A., University of Arkansas, 1983.
 Hillegas, Mark, Professor, *Emeritus*, Ph.D., Columbia University, 1957.
 Hilliard, Lewis J., Assistant Professor, M.S.Ed., Southern Illinois University, 1952.
 Howell, John M., Professor, Ph.D., Tulane University, 1963.
 Hurley, Paul J., Professor, Ph.D., Duke University, 1962.
 Jones, Rodney G., Associate Professor, M.F.A., University of North Carolina at Greensboro, 1973.
 Kiefer, Daniel, Assistant Professor, Ph.D., Yale University, 1985.
 Krappe, Edith, Associate Professor, *Emerita*, Ph.D., University of Pennsylvania, 1953.
 Kvernes, David M., Assistant Professor, Ph.D., University of Minnesota, 1967.
 Lamb, Mary E., Associate Professor, Ph.D., Columbia University, 1976.
 Lawson, Richard A., Associate Professor, Ph.D., Tulane University, 1966.
 Light, James F., Professor, *Emeritus*, Ph.D., Syracuse University, 1953.
 Lingle, Fred, Assistant Professor, *Emeritus*, A.M., University of Illinois, 1935.
 Little, Judy Ruth, Professor, Ph.D., University of Nebraska, 1969.

Martin, Joan Foley, Assistant Professor, M.A., Southern Illinois University, 1959.
McClure, Lisa, Assistant Professor, D.A., University of Michigan, 1988.
McNichols, Edward L., Assistant Professor, M.A., University of Detroit, 1958.
Mitchell, Betty Lou, Assistant Professor, M.A., Southern Illinois University, 1951.
Moss, Sidney P., Professor, *Emeritus*, Ph.D., University of Illinois, 1954.
Partlow, Robert B., Jr., Professor, *Emeritus*, Ph.D., Harvard University, 1955.
Person, Leland S., Jr., Associate Professor, Ph.D., Indiana University, 1977.
Peterson, Richard F., Professor and *Chairperson*, Ph.D., Kent State University, 1969.
Piper, Henry Dan, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
Rainbow, R. S., Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1950.
Richman, Lois Anne, Assistant Professor, M.A.T.E., University of Illinois, 1962.
Riedinger, Anita R., Assistant Professor, Ph.D., New York University, 1985.
Rudnick, Hans H., Professor, Ph.D., University of Freiburg, Germany, 1966.
Russo, James Richard, Associate Professor, Ph.D., University of Arizona, 1980.
Schonhorn, Manuel S., Professor, Ph.D., University of Pennsylvania, 1963.
Simeone, William E., Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
Simon, Mary C., Instructor, *Emerita*, A.M., University of Illinois, 1940.
Smith, Gary, Associate Professor, Ph.D., Stanford University, 1981.
Stibitz, E. Earle, Professor, *Emeritus*, Ph.D., University of Michigan, 1951.
Vieth, David Muench, Professor, *Emeritus*, Ph.D., Yale University, 1953.
Webb, Howard W., Jr., Professor, Ph.D., University of Iowa, 1953.
Weshinskey, Roy K., Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1950.
Zimra, Clarisse, Assistant Professor, Ph.D., University of Washington, 1974.

Finance (College of Business and Administration)

Davids, Lewis E., Professor, *Emeritus*, Ph.D., New York University, 1949.
Davidson, Wallace N., Professor, Ph.D., Ohio State University, 1982.
Elsaid, Hussein H., Professor, Ph.D., University of Illinois, 1968.
Jose, Manuel L., Assistant Professor, Ph.D., Virginia Polytechnic Institute, 1983.
Mathur, Iqbal, Professor and *Chairperson*, Ph.D., University of Cincinnati, 1974.
Rangan, Nanda, Assistant Professor, Ph.D., Texas A&M University, 1986.
Rosenstein, Stuart, Assistant Professor, Ph.D., University of Colorado, 1987.
Schwarz, Thomas V., Assistant Professor, D.B.A., Florida State University, 1984.
Tyler, R. Stanley, Associate Professor, J.D., University of Illinois, 1952.
Vaughn, Donald E., Professor, Ph.D., University of Texas, 1961.
Waters, Gola E., Professor, J.D., University of Iowa, 1957, Ph.D., Southern Illinois University, 1970.

Food and Nutrition (College of Agriculture)

Ashraf, Hea-Ran L., Assistant Professor, Ph.D., Iowa State University, 1979.
Becker, Henrietta, Lecturer, *Emerita*, M.S., Southern Illinois University, 1964.
Endres, Jeannette M., Professor, Ph.D., St. Louis University, 1972.
Harper, Jenny M., Professor, *Emerita*, Ph.D., Cornell University, 1941.
Konishi, Frank, Professor, *Emeritus*, Ph.D., Cornell University, 1958.
Payne, Irene R., Professor, *Emerita*, Ph.D., Cornell University, 1960.
Welch, Patricia, Associate Professor, Ph.D., Southern Illinois University, 1982.

Foreign Languages and Literatures (College of Liberal Arts)

Aydt, Judith, Assistant Professor, M.A., Southern Illinois University, 1966.
Betz, Frederick, Professor, Ph.D., Indiana University, 1973.
Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944.
Canfield, D. Lincoln, Professor, *Emeritus*, Ph.D., Columbia University, 1934.
Cohen-Scali, Stella, Assistant Professor, Ph.D., Florida State University, 1988.
Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936.
Gobert, David L., Professor, Ph.D., University of Iowa, 1960.
Hammond, Charles E., Assistant Professor, Ph.D., Columbia University, 1986.

Hartman, Steven Lee, Associate Professor, Ph.D., University of Wisconsin, 1971.
 Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943.
 Keller, Thomas, Associate Professor, Ph.D., University of Colorado, 1975.
 Kilker, James, Professor, *Emeritus*, Ph.D., University of Missouri at Columbia, 1961.
 Kim, Alan Hyun-Oak, Assistant Professor, Ph.D., University of Southern California, 1985.
 Lapeza, David H., Assistant Professor, Ph.D., University of Michigan, 1986.
 Leal-McBride, Maria-Odilia, Assistant Professor, Ph.D., University of Texas at Austin, 1981.
 Liedloff, Helmut, Professor, Ph.D., Phillips University, Germany, 1956.
 McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968.
 Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965.
 Neufeld, Anna K., Assistant Professor, *Emerita*, M.A., University of Kansas, 1937.
 O'Brien, Joan, Professor, Ph.D., Fordham University, 1961.
 Orechwa, Olga, Associate Professor, *Emerita*, Ph.D., Ukrainian Free University, Germany, 1970.
 Speck, Charles, Assistant Professor, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963.
 Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960.
 Ulner, Arnold, Assistant Professor, Ph.D., University of Missouri at Columbia, 1972.
 Vogely, Maxine, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1969.
 Wilkinson, Mildred, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1965.
 Williams, Frederick, Associate Professor, Ph.D., Cornell University, 1976.
 Winters, Margaret E., Associate Professor, Ph.D., University of Pennsylvania, 1975.
 Woodbridge, Hensley, Professor, Ph.D., University of Illinois, 1950.

Forestry (College of Agriculture)

Aubertin, Gerald M., Associate Professor, Ph.D., Pennsylvania State University, 1964.
 Budelsky, Carl A., Assistant Professor, Ph.D., University of Arizona, 1969.
 Burde, John H., III, Associate Professor, Ph.D., University of Arizona, 1975.
 Chen, Peter Y.S., Adjunct Assistant Professor, Ph.D., University of Minnesota, 1968.
 Chilman, Kenneth C., Associate Professor, Ph.D., University of Michigan, 1972.
 Fralish, James S., Associate Professor, Ph.D., University of Wisconsin, 1970.
 Gaffney, Gerald R., Assistant Professor, Ph.D., Southern Illinois University, 1970.
 Kessler, Kenneth J., Adjunct Assistant Professor, Ph.D., West Virginia University, 1959.
 Kung, Fan H., Professor, Ph.D., Michigan State University, 1968.
 McCurdy, Dwight R., Professor and *Chairperson*, Ph.D., Ohio State University, 1964.
 Myers, Charles C., Associate Professor, Ph.D., Purdue University, 1966.
 Phelps, John, Adjunct Assistant Professor, Ph.D., University of Missouri, 1980.
 Rink, George, Adjunct Assistant Professor, Ph.D., University of Tennessee, 1974.
 Roth, Paul L., Professor, Ph.D., Kansas State University, 1968.
 Van Sambeek, Jerome W., Adjunct Assistant Professor, Ph.D., Washington University, 1975.

Geography (College of Liberal Arts)

Arej, David G., Associate Professor, Ph.D., Clark University, 1969.
 Baumann, Duane D., Professor, Ph.D., Clark University, 1968.
 Beazley, Ronald I., Professor, *Emeritus*, Ph.D., Purdue University, 1954.
 Christensen, David E., Professor, *Emeritus*, Ph.D., University of Chicago, 1956.
 Dziegielewski, Benedykt, Assistant Professor, Ph.D., Southern Illinois University, 1983.
 Horsley, A. Doyne, Assistant Professor, Ph.D., Southern Illinois University, 1974.
 Irwin, Daniel R., Associate Professor, Ph.D., Syracuse University, 1972.
 Jones, David L., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1960.
 Krause, Annemarie, Associate Professor, *Emerita*, Ph.D., University of Chicago, 1952.
 Lant, Christopher, Assistant Professor, Ph.D., University of Iowa, 1988.
 Lieber, Stanley R., Professor, Ph.D., University of Iowa, 1974.
 Sharpe, David M., Professor and *Chairperson*, Ph.D., Southern Illinois University, 1968.

Geology (College of Science)

Crelling, John C., Professor, Ph.D., The Pennsylvania State University, 1973.
 Dutcher, Russell R., Professor, Ph.D., The Pennsylvania State University, 1960.
 Esling, Steven Paul, Associate Professor, Ph.D., University of Iowa, 1984.

Fifarek, Richard H., Assistant Professor, Ph.D., Oregon State University, 1985.
Flanagan, Kathryn M., Instructor, M.S., University of Arizona, 1986.
Frank, Charles O., Assistant Professor, Ph.D., Syracuse University, 1973.
Fraunfelder, George H., Professor, Ph.D., University of Missouri, Columbia, 1964.
Harris, Stanley E. Jr., Professor, *Emeritus*, Ph.D., University of Iowa, 1947.
Kochel, R. Craig, Associate Professor, Ph.D., University of Texas at Austin, 1980.
Kruege, Michael A., Assistant Professor, Ph.D., University of California, Berkeley, 1985.
Marzolf, John E., Associate Professor, Ph.D., University of California at Los Angeles, 1970.
Ritter, Dale F., Professor, Ph.D., Princeton University, 1964.
Sexton, John L., Associate Professor, Ph.D., Indiana University, 1974.
Staub, James R., Assistant Professor, Ph.D., University of South Carolina, 1985.
Utgaard, John E., Professor and *Chairperson*, Ph.D., Indiana University, 1963.
Zimmerman, Jay, Jr., Professor, Ph.D., Princeton University, 1968.

Graphic Communications (College of Technical Careers)

Ashworth, Edwin Robert, Assistant Professor, *Emeritus*, Computer Information Processing, Ph.D., Southern Illinois University, 1972.
Bishop, Kelly, Visiting Assistant Professor, Interior Design, M.S., Florida State University, 1987.
Boza, Gertrude, Instructor, *Emerita*, Graphic Design, Fine Arts Degree, Syracuse University, 1932.
Bramlet, James E., Assistant Professor, Commercial Graphics-Design, M.A., Western Illinois University, 1970.
Caldwell, Paul N., Associate Professor, *Emeritus*, Electronics Technology, M.S.Ed., Southern Illinois University, 1965.
Clarke, David D., Professor, Ph.D., Southern Illinois University, 1989.
Cook, F. Roger, Assistant Professor, Computer Information Processing, M.S., Southern Illinois University, 1987.
Courvoisier, Gerald F., Visiting Instructor, Photographic Production Technology, B.S., Southern Illinois University, 1987.
Dare, Donna, Visiting Assistant Professor, Related Studies, M.A., Southern Illinois University, 1988.
Davey, Jon, Assistant Professor, Architectural Technology, M.S., Southern Illinois University, 1987.
Davis, Diane, Associate Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1979.
Davis, L. Noel, Assistant Professor, Architectural Technology, B.S., University of Illinois, 1948.
Devenport, William R., Assistant Professor, Electronics Technology, M.S., Illinois State University, 1985.
Dotson, Michael, Visiting Assistant Professor, Electronics Technology, M.S., Southern Illinois University, 1986.
Einig, Raymond G., Jr., Assistant Professor, Computer Information Processing, M.S., St. Louis University, 1962.
Ellner, Jack R., Professor, Ph.D., New York University, 1969.
Evans, Candy Duncan, Associate Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1973.
Fisher, Valerie, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1975.
Gimenez, Atilio M., Assistant Professor, Architectural Technology, M.Arch., University of Buenos Aires, 1964.
Gonzenbach, Nancy, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1983.
Greathouse, Deborah J., Lecturer, Electronics Technology, B.S., Southern Illinois University, 1983.
Hampton, Robbye Joanna, Assistant Professor, *Emerita*, Mathematics, M.S., Southern Illinois University, 1965.
Harre, Paul A., Associate Professor and *Associate Dean*, Graphic Communications, M.S., Southern Illinois University, 1974.
Haun, Melvin L., Sr., Assistant Professor, Electronics Technology, M.S., Southern Illinois University, 1982.
Hays, Denny M., Associate Professor, A.I.A., Registered Architect, M. of Arch., University of Utah, Salt Lake City, 1971.
Henry, Janice Schoen, Associate Professor, Office Systems and Specialties, M.S., University of Illinois, 1970.
Houston, James, Visiting Assistant Professor, Electronics Technology, B.S., Western Kentucky University, 1974.

- Jeralds, Lawrence E.**, Assistant Professor, Computer Information Processing, M.S., Southern Illinois University, 1988.
- Johnson, Byron V.**, Associate Professor and *Coordinator*, Computer Information Processing, Ph.D., Southern Illinois University, 1982.
- Kearny, Brian**, Visiting Assistant Professor, Electronics Technology, B.S., Southern Illinois University, 1981.
- Keim, William**, Visiting Professor and *Director*, Graphic Communications, Ph.D., University of Southern California, 1969
- Lach, Norman**, Assistant Professor, Architectural Technology, M.Arch., University of Illinois, 1974.
- Ladner, Joel Brooks**, Associate Professor, Architectural Technology, M.Arch., University of Houston, 1984.
- Little, Harold E.**, Associate Professor, *Emeritus*, Architectural Technology, B.S., Pennsylvania State University, 1951.
- Mailloux, Lawrence**, Assistant Professor, Commercial Graphics-Design, B.F.A., Rhode Island School of Design, 1947.
- Morgan, Barbara**, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1972.
- Morse, H. Pauletta**, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1979.
- Moss, Lorna**, Instructor, Office Systems and Specialties, M.S., Southern Illinois University, 1978.
- Novak, Mary Ann**, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1979.
- Owens, Terry A.**, Assistant Professor, Architectural Technology, M.S., Southern Illinois University, 1984.
- Payne, Michael A.**, Associate Professor, Computer Information Processing, M.S., Southern Illinois University, 1974.
- Poggas, Christy**, Visiting Assistant Professor, Architectural Technology, B. Arch., University of Arizona, 1975.
- Ramsey, William**, Lecturer, *Emeritus*, Physics, M.S., Southern Illinois University.
- Rehwaldt, Susan S.**, Assistant Professor and *Coordinator*, Office Systems and Specialties, Ph.D., Southern Illinois University, 1982.
- Richey, Helen E.**, Assistant Professor, *Emerita*, Graphic Communication, M.S., Southern Illinois University, 1953.
- Rossi, Eric**, Visiting Assistant Professor, Electronics Technology, B.A., Southern Illinois University, 1982.
- Rutledge, Clifton D.**, Associate Professor and *Coordinator*, Architectural Technology, M. Arch., Kansas State University, 1968.
- Salem-Conrad, Paige**, Assistant Professor, Interior Design, M.S., Florida State University, 1986.
- Sheets, Joyce**, Assistant Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1985.
- Sheets, Leslie P.**, Associate Professor, Electronics Technology, M.S., Southern Illinois University, 1976.
- Sheridan, Robert O.**, Assistant Professor, Commercial Graphics-Design, B.S., Southern Illinois University, 1979.
- Shin, Wangshik**, Associate Professor, Office Systems and Specialties, M.S., Southern Illinois University, 1963.
- Shupe, William G.**, Associate Professor and *Coordinator*, Electronics Technology, M.S., Southern Illinois University, 1977.
- Simonson, Ronald**, Assistant Professor, Interior Design, M. Arch., University of Illinois, 1987.
- Stanley, Charles R.**, Assistant Professor, Related Studies, M.S., University of Houston, 1976.
- Tregoning, Elizabeth**, Lecturer, Related Studies, B.S., University of Illinois, 1979.
- Tully, Timothy R.**, Assistant Professor and *Coordinator*, Interior Design, B.S., Southern Illinois University, 1984.
- Vaughn, F. Eugene**, Associate Professor, *Emeritus*, Office Systems and Specialties, M.S.Ed., Southern Illinois University, 1961.
- Walchli, Edward J.**, Associate Professor, Architectural Technology, B.Arch., Yale University, 1949.
- White, David J.**, Lecturer, Commercial Graphics-Design, B.F.A., Southern Illinois University, 1985.
- White, Robert**, Associate Professor and *Coordinator*, Photographic Production Technology, M.S., Southern Illinois University, 1962.
- Wolfson, Ruth Ann**, Lecturer, Related Studies, B.S., Eastern Illinois University, 1976.
- Woolard, Linda**, Assistant Professor, Computer Information Processing, M.S., Southern Illinois University, 1984.
- Yack, John L.**, Associate Professor and *Coordinator*, Commercial Graphics-Design, M.F.A., University of Oklahoma, 1959.

Health Education (College of Education)

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960.
Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949.
Bridges, A. Frank., Professor, *Emeritus*, D.H.S., Indiana University, 1952.
Drolet, Judy C., Associate Professor, Ph.D., University of Oregon, 1982.
Grisson, Deward K., Professor *Emeritus*, Ed.D., Columbia University, 1952.
Hailey, Robert, Assistant Professor, M.Ed., University of Missouri, Columbia, 1959.
Jones, Richard, Instructor, M.S.Ed., Southern Illinois University, 1966.
Lacey, Ella P., Assistant Professor, Ph.D., Southern Illinois University, 1979.
Phillips, Frances K., Associate Professor *Emerita*, M.A., Columbia University, 1940.
Richardson, Charles E., Professor, Ed.D., University of California, Los Angeles, 1959.
Ritzel, Dale, Professor and *Chairman*, Ph.D., Southern Illinois University, 1970.
Russell, Robert D., Professor, Ed.D., Stanford University, 1954.
Sarvela, Paul, Associate Professor, Ph.D., University of Michigan, 1984.
Sliepcevich, Elena M., Professor, D.P.E., Springfield College, 1955.
Vaughn, Andrew T., Professor, *Emeritus*, D.Ed., Columbia University, 1958.
Vitello, Elaine, Professor, Ph.D., Southern Illinois University, 1977.
Vogel, Herbert, Instructor, M.S., Indiana University, 1954.
Zunich, Eileen M., Assistant Professor, Ph.D., Southern Illinois University, 1970.

History (College of Liberal Arts)

Allen, Howard W., Professor, Ph.D., University of Washington, 1959.
Ammon, Harry, Professor, *Emeritus*, Ph.D., University of Virginia, 1948.
Barton, H. Arnold, Professor, Ph.D., Princeton University, 1962.
Batinski, Michael C., Associate Professor, Ph.D., Northwestern University, 1969.
Carr, Kathryn, Assistant Professor, Ph.D., University of Chicago, 1987.
Carrott, M. Browning, Associate Professor, Ph.D., Northwestern University, 1966.
Conrad, David E., Professor, Ph.D., University of Oklahoma, 1962.
Detwiler, Donald S., Professor, Dr.Phil., Göttingen University, Germany, 1961.
Dotson, John E., Assistant Professor, Ph.D., Johns Hopkins University, 1969.
Fladeland, Betty L., Distinguished Professor, *Emerita*, Ph.D., University of Michigan, 1952.
Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945.
Gold, Robert L., Professor, *Emeritus*, Ph.D., University of Iowa, 1964.
Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933.
Morgan, Marjorie L., Assistant Professor, Ph.D., Tulane University, 1988.
Murphy, James B., Associate Professor, Ph.D., Louisiana State University, 1968.
Neel, Susan M., Assistant Professor, Ph.D., University of California at Los Angeles, 1989.
O'Day, Edward J., Assistant Professor, A.M., Indiana University, 1956.
Shelby, Lon R., Professor, Ph.D., University of North Carolina, 1962.
Simon, John Y., Professor, Ph.D., Harvard University, 1961.
Vyverberg, Henry S., Professor, *Emeritus*, Ph.D., Harvard University, 1950.
Werlich, David P., Professor and *Chairperson*, Ph.D., University of Minnesota, 1968.
Wilson, David L., Associate Professor, Ph.D., University of Tennessee, 1974.
Wright, John I., Associate Professor, *Emeritus*, A.M., University of Chicago, 1933.
Wu, Tien-Wei, Professor, Ph.D., University of Maryland, 1965.

Journalism (College of Communications and Fine Arts)

Akhavan-Majid, Roya, Assistant Professor, Ph.D., University of Minnesota, 1988.
Atwood, L. Erwin, Professor, Ph.D., University of Iowa, 1965.
Brown, George C., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1963.
Elliott, William, Associate Professor, Ph.D., University of Wisconsin, 1972.
Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.
Gruny, C. Richard, Assistant Professor, J.D., University of Illinois, 1959.
Hart, Jim Allee, Professor, *Emeritus*, Ph.D., University of Missouri, 1959.
Jaehnig, Walter, Associate Professor and *Director*, Ph.D., University of Essex, 1974.
Johnson, Thomas J., Assistant Professor, Ph.D., University of Washington, 1989.
Lalvani, Suren, Lecturer, M.A., University of Illinois, 1983.
McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

Ramaprasad, Jyotika, Assistant Professor, Ph.D., Southern Illinois University, 1985.
 Rice, W. Manion, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1967.
 Risteen, Richard N., Lecturer, M.S., Columbia University, 1947.
 Spellman, Robert L., Jr., Assistant Professor, J.D., Cleveland State University, 1977.
 Stonecipher, Harry W., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1971.
 Wanta, Wayne, Assistant Professor, Ph.D., University of Texas, 1989.

Library Affairs

Bauner, Ruth E., Associate Professor, Ph.D., Southern Illinois University, 1978.
 Bedient, Douglas, Professor, Ph.D., Southern Illinois University, 1971.
 Black, George W., Jr., Professor, M.S.L.S., Columbia University, 1966.
 Boydston, Jo Ann, Distinguished Professor, Ph.D., Columbia University, 1950.
 Brown, F. Dale, Associate Professor, Ph.D., Southern Illinois University, 1978.
 Chervinko, James S., Assistant Professor, M.S.L.S., University of Illinois, 1973.
 Cohn, Alan M., Professor, M.S., University of Illinois, 1955.
 Cook, Margaret K., Assistant Professor, Ph.D., Southern Illinois University, 1977.
 Cox, Shelley M., Assistant Professor, M.A., Southern Illinois University, 1981.
 Crane, Lilly E., Assistant Professor, M.A.L.S., University of Michigan, 1967.
 Davis, Harry, Assistant Professor, M.A.L.S., University of Denver, 1969.
 Drickamer, Karen D., Lecturer, M.L.S., State University of New York at Albany, 1987.
 Fahey, Kathleen G., Assistant Professor, M.S., University of Michigan, 1971.
 Field, Richard, Researcher, M.A., Michigan State University, 1981.
 Foote, Jody B., Lecturer, M.L.S., University of Texas, 1979.
 Fox, James W., Assistant Professor, M.A., University of North Carolina, 1974.
 Fox, Mary Anne, Assistant Professor, M.A., Southern Illinois University, 1979.
 Glass, Betty J., Assistant Professor, M.S.L.S., University of Tennessee, 1983.
 Harwood, Judith Ann, Associate Professor, Ph.D., Southern Illinois University, 1981.
 Holliday, Charles L., Assistant Professor, *Emeritus*, M.S., University of Illinois, 1964.
 Hostetler, Jerry, Assistant Professor, Ph.D., Southern Illinois University, 1977.
 Hutton, Betty Jean, Assistant Professor, M.S., Southern Illinois University, 1968.
 Isbell, Mary K., Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1971.
 Jenkins, Darrell L., Associate Professor, M.A., New Mexico State University, 1976.
 Keel, Robert L., Assistant Professor, M.A.L.S., George Peabody College for Teachers, 1961.
 Kilpatrick, Thomas L., Associate Professor, Ph.D., George Peabody College, 1982.
 Koch, David V., Associate Professor, M.A., Southern Illinois University, 1963.
 Koch, Loretta, Assistant Professor, M.S., University of Illinois, 1974.
 Lampman, Wilma L., Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1978.
 Marrero, Carlos E., Instructor, M.A., University of Denver, 1961.
 Martinsek, Catherine W., Researcher, M.A., University of California at Los Angeles, 1950.
 Matson, Susan A., Assistant Professor, Ph.D., University of Wisconsin, 1972.
 Matthews, Elizabeth W., Professor, Ph.D., Southern Illinois University, 1972.
 Mesplay, Deborah, Assistant Professor, M.L.S., University of Kentucky, 1978.
 Person, Roland C., Associate Professor, Ph.D., Southern Illinois University, 1982.
 Peterson, Kenneth G., Professor, Ph.D., University of California at Berkeley, 1968.
 Pixley, Lorene, Assistant Professor, M.S., University of Illinois, 1960.
 Poteet, Susan S., Assistant Professor, M.A., Southern Illinois University, 1987.
 Preece, Barbara G., Assistant Professor, M.A.L.S., University of Minnesota, 1979.
 Rubin, Angela, Assistant Professor, M.S., University of Illinois, 1956.
 Russell, Thyra K., Assistant Professor, Ph.D., Southern Illinois University, 1987.
 Ryan, Sheila, Assistant Professor, M.A.L.S., University of Wisconsin, 1983.
 Scott, W. Wiley, Assistant Professor, M.M., Southern Illinois University, 1981.
 Simon, John Y., Professor, Ph.D., Harvard University, 1961.
 Starratt, Joseph, Assistant Professor, M.L.S., Emory University, 1980.
 Stubbs, Walter R., Associate Professor, Ph.D., Southern Illinois University, 1983.
 Tax, Andrew T., Assistant Professor, M.L.S., Charles University, Prague, 1962.
 Wilson, Betty Ruth, Associate Professor, M.A., George Peabody College for Teachers, 1957.
 Wilson, David L., Research Associate, Ph.D., University of Tennessee, 1974.
 Wood, Don E., Assistant Professor, M.S., University of Illinois, 1965.
 Young, Robert S., Lecturer, M.L.S., Columbia University, 1987.

Linguistics (College of Liberal Arts)

Angelis, Paul J., Associate Professor and *Chair*, Ph.D., Georgetown University, 1968.

Gilbert, Glenn G., Professor, Ph.D., Harvard University, 1963.
Nathan, Geoffrey S., Associate Professor, Ph.D., University of Hawaii, 1978.
Nguyen, Dinh-Hoa, Professor, Ph.D., New York University, 1956.
Parish, Charles, Professor, Ph.D., University of New Mexico, 1959.
Perkins, Allen Kyle, Professor, Ph.D., University of Michigan at Ann Arbor, 1976.
Redden, James E., Professor, Ph.D., Indiana University, 1965.
Winer, Lise S., Assistant Professor, Ph.D., University of the West Indies, 1982.
Winters, Margaret E., Associate Professor, Ph.D., University of Pennsylvania, 1975.

Management (College of Business and Administration)

Bateman, David N., Professor, Ph.D., Southern Illinois University, 1970.
Bedwell, R. Ralph, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969.
Brandt, Janis, Instructor, Southern Illinois University.
Fohr, John M., Professor, *Emeritus*, Michigan State University, 1959.
Gutteridge, Thomas G., Professor and *Dean*, Ph.D., Purdue University, 1971.
Larson, Lars L., Associate Professor, Ph.D., University of Illinois, 1971.
Melcher, Arlyn J., Professor and *Chairperson*, Ph.D., University of Chicago, 1964.
Ponce De Leon, Jesus, Assistant Professor, Ph.D., Indiana University, 1989.
Ramaprasad, Arkalqud, Associate Professor, Ph.D., University of Pittsburgh, 1980.
Scott, John W., Professor, *Emeritus*, Ph.D., University of Chicago, 1930.
Sekaran, Uma, Professor, Ph.D., University of California at Los Angeles, 1977.
Tadisina, Suresh, Assistant Professor, Ph.D., University of Cincinnati, 1987.
Trout, Marvin, Assistant Professor, Ph.D., University of Illinois at Chicago Circle, 1975.
Vicars, William M., Associate Professor, Ph.D., Southern Illinois University, 1969.
Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.
White, Gregory P., Associate Professor, Ph.D., University of Cincinnati, 1976.
Wilson, Harold K., Associate Professor, D.B.A., University of Colorado, 1972.

Marketing (College of Business and Administration)

Adams, Kendall A., Professor, Ph.D., Michigan State University, 1962.
Andersen, R. Clifton, Professor and *Chairman*, D.B.A., Indiana University, 1960.
Anderson, Carol H., Associate Professor, Ph.D., Texas A & M University, 1981.
Bruner, Gordon C., II, Associate Professor, Ph.D., University of North Texas, 1983.
Domermuth, William P., Professor, *Emeritus*, Ph.D., Northwestern University, 1964.
Fraedrich, John P., Assistant Professor, Ph.D., Texas A & M University, 1988.
Hensel, Paul J., Associate Professor, Ph.D., University of Houston, 1982.
Hindersman, Charles H., Professor, D.B.A., Indiana University, 1959.
King, Maryon F., Assistant Professor, Ph.D., Indiana University, 1989.
Mathur, Lynette L., Instructor, M.B.A., Southern Illinois University, 1985.
Moore, James R., Assistant Professor, Ph.D., University of Illinois, 1972.
Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966.
Summey, John H., Associate Professor, Ph.D., Arizona State University, 1974.

Mathematics (College of Science)

Allison, Dean, Assistant Professor, Ph.D., University of Missouri at Columbia, 1985.
Beckemeyer, Imogene C., Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1952.
Burton, Theodore A., Professor, Ph.D., Washington State University, 1964.
Carlson, Dean A., Associate Professor, Ph.D., University of Delaware at Newark, 1983.
Crenshaw, James A., Associate Professor, Ph.D., University of Illinois, 1967.
Danhof, Kenneth, Professor, Ph.D., Purdue University, 1969.
Dharmadhikari, Sudhakar, Professor, Ph.D., University of California at Berkeley, 1962.
Earnest, Andrew, Associate Professor, Ph.D., Ohio State University, 1975.
Elston, George, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, 1949.
Feinsilver, Philip, Associate Professor, Ph.D., New York University, 1975.
Fitzgerald, Robert, Associate Professor, Ph.D., University of California at Los Angeles, 1980.
Foland, Neal E., Professor, Ph.D., University of Missouri, 1961.
Gates, Leslie D., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1952.
Greene, John, Assistant Professor, Ph.D., University of Minnesota, 1984.
Gregory, John, Professor, Ph.D., University of California at Los Angeles, 1969.

Grimmer, Ronald C., Professor, Ph.D., University of Iowa, 1967.
 Hall, Dilla, Associate Professor, *Emeritus*, Ph.D., St. Louis University, 1955.
 Hooker, John W., Associate Professor, Ph.D., University of Oklahoma, 1967.
 Hunsaker, Worthen N., Associate Professor, Ph.D., Washington State University, 1966.
 Jeyaratnam, Sakthivel, Associate Professor, Ph.D., Colorado State University, 1978.
 Kammler, David, Professor, Ph.D., University of Michigan, 1971.
 Kirk, Ronald B., Professor and *Chairperson*, Ph.D., California Institute of Technology, 1968.
 Koch, Charles, Assistant Professor, Ph.D., University of Illinois, 1961.
 Kuipers, Lauwerens, Professor, *Emeritus*, Ph.D., Vrije Universiteit (Amsterdam), 1947.
 Langenhop, Carl E., Professor, *Emeritus*, Ph.D., Iowa State University, 1948.
 Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947.
 Maxwell, Charles, Professor, Ph.D., University of Illinois, 1955.
 McDaniel, Wilbur C., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1939.
 Mohammed, Salah, Professor, Ph.D., University of Warwick, 1976.
 Moore, Robert A., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1962.
 Neuman, Edward G., Professor, Ph.D., University of Wroclaw (Poland), 1972.
 Olmsted, John M. H., Professor, *Emeritus*, Ph.D., Princeton University, 1940.
 Paine, Thomas B., Assistant Professor, Ph.D., University of Oregon, 1966.
 Panchapakesan, S., Professor, Ph.D., Purdue University, 1969.
 Parker, George D., Associate Professor, Ph.D., University of California at San Diego, 1971.
 Patula, William T., Professor, Ph.D., Carnegie-Mellon University, 1972.
 Pedersen, Franklin D., Associate Professor, Ph.D., Tulane University, 1967.
 Pedersen, Katherine, Associate Professor, Ph.D., Tulane University, 1969.
 Pericak-Spector, Kathleen, Associate Professor, Ph.D., Carnegie-Mellon University, 1980.
 Redmond, Donald, Associate Professor, Ph.D., University of Illinois, 1976.
 Skalsky, Michael, Professor, *Emeritus*, D.Nat.Sc., University of Göttingen, 1949.
 Slechtycky, James L., Instructor, *Emeritus*, M.S. Washington University, 1940.
 Snyder, Herbert H., Professor, Ph.D., Lehigh University, 1965, Ph.D., University of South Africa, 1972.
 Spector, Scott J., Associate Professor, Ph.D., Carnegie-Mellon University, 1978.
 Wallis, Walter, Professor, Ph.D., University of Sydney, 1967.
 Willis, Daniel G., Assistant Professor, Ph.D., University of Iowa, 1986.
 Wilson, Joseph C., Professor, *Emeritus*, Ph.D., Louisiana State University, 1954.
 Wimp, Larry L., Assistant Professor, *Emeritus*, M.A., University of Missouri, 1940, M.S., Southern Illinois University, 1959.
 Wright, Mary, Associate Professor, Ph.D., McGill University, 1977.
 Yucas, Joseph, Associate Professor, Ph.D., Pennsylvania State University, 1978.
 Zeman, Marvin, Professor, Ph.D., New York University (Courant Institute), 1974.

Mechanical Engineering and Energy Processes

(College of Engineering and Technology)

Agrawal, Om, Assistant Professor, Ph.D., University of Illinois at Chicago, 1984.
 Chen, Juh W., Professor, Ph.D., University of Illinois, 1959.
 Don, Jarlen, Assistant Professor, Ph.D., Ohio State University, 1982.
 Helmer, Wayne Allen, Associate Professor, Ph.D., Purdue University, 1974.
 Hesketh, Howard B., Professor, Ph.D., Pennsylvania State University, 1968.
 Hippo, Edwin J., Associate Professor, Ph.D., Pennsylvania State University, 1977.
 Jefferson, Thomas B., Professor, Ph.D., Purdue University, 1955.
 Kent, Albert C., Professor and *Chairperson*, Ph.D., Kansas State University, 1968.
 Lalvani, S.B., Associate Professor, University of Connecticut, 1982.
 Margon, Irving, Visiting Associate Professor, M.S., University of California, Los Angeles, 1948.
 Muchmore, Charles B., Professor, Ph.D., Southern Illinois University, 1970.
 O'Brien, William S., Associate Professor, Ph.D., West Virginia University, 1972.
 Orthwein, William, Professor, Ph.D., University of Michigan, 1959.
 Rajan, S., Professor, Ph.D., University of Illinois, 1970.
 Swisher, James H., Professor, Ph.D., Carnegie-Mellon University, 1963.
 Tempelmeyer, Kenneth E., Professor, Ph.D., University of Tennessee, 1969.
 Wapner, Philip G., Associate Professor, Ph.D., University of Pennsylvania, 1970.
 Wittmer, Dale, Associate Professor, Ph.D., University of Illinois, 1980.

Microbiology (College of Science)

Borgia, Peter, Associate Professor, Ph.D., University of Illinois, 1973.

Brewer, Gregory, Associate Professor, Ph.D., University of California, 1972.
Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968.
Christianson, Thomas W., Assistant Professor, Ph.D., University of Chicago, 1983.
Clark, David, Associate Professor, Ph.D., University of Bristol (England), 1976.
Cooper, Morris D., Associate Professor, Ph.D., University of Georgia at Athens, 1971.
Fix, Douglas F., Assistant Professor, Ph.D., Indiana University, 1983.
Jackson, Robert, Professor, Ph.D., Purdue University, 1963.
Madigan, Michael T., Associate Professor, Ph.D., University of Wisconsin, 1976.
Martinko, John M., Associate Professor, Ph.D., State University of New York at Buffalo, 1978.
Moticka, Edward A., Associate Professor, Ph.D., University of Illinois at the Medical Center, 1970.
Myers, Walter L., Professor, D.V.M., Ph.D., University of Wisconsin, 1961.
Parker, Jack M., Associate Professor and *Acting Chairperson*, Ph.D., Purdue University, 1973.
Rouhandeh, Hassan, Professor, Ph.D., Kansas State University, 1959.
Rowan, Dighton F., Professor, *Emeritus*, Ph.D., Stanford University, 1954.
Shechmeister, Isaac L., Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1949.
Tewari, Ram, Professor, D.V.M., Agra University, India, 1960; Ph.D., Ohio State University, 1966.
Watabe, Kounosuki, Assistant Professor, Ph.D., Kyoto University, Japan, 1981.

Mining Engineering (College of Engineering and Technology)

Caudle, Rodney D., Associate Professor, M.S., University of Illinois, 1952.
Chugh, Yoginder P., Professor and *Chairperson*, Ph.D., Pennsylvania State University, 1971.
Nagel, Neal B., Lecturer, M.S., University of Missouri-Rolla, 1984.
Sevim, Hasan, Associate Professor, Ph.D., Columbia University, 1984.
Sinha, Atmesh K., Professor, Ph.D., University of Sheffield, 1963.

Music (College of Communications and Fine Arts)

Allison, Robert, Assistant Professor, D.M.A., University of Illinois, 1988.
Barta, Michael, Associate Professor, M.M., Franz Liszt Academy of Music (Hungary), 1977.
Barwick, Steven, Professor, *Emeritus*, Ph.D., Harvard University, 1949.
Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959.
Beattie, Donald, Associate Professor, M.Mus., University of Colorado, 1977.
Best, Richard, Professor, Northwestern University.
Bottje, Will Gay, Professor, *Emeritus*, D.M.A., Eastman School of Music, 1955.
Breznikar, Joseph, Associate Professor, M.Mus., University of Akron, 1977.
Delphin, Wilfred, Professor, D.M.A., University of Southern Mississippi, 1976.
Fligel, Charles, Associate Professor, M.M., University of Kentucky, 1966.
Grizzell, Mary Jane, Assistant Professor, *Emerita*, M.Mus., Eastman School of Music, 1943.
Hanes, Michael, Associate Professor, M.M.E., Southern Illinois University, 1965.
Hartline, Elisabeth, Assistant Professor, *Emerita*, M.Mus. Northwestern University, 1936.
House, Mary Elaine Wallace, Professor, *Emerita*, M.Mus., University of Illinois, 1954.
Hunt, C. B., Jr., Professor, *Emeritus*, Ph.D., University of California, Los Angeles, 1949.
Hussey, George, Professor, M.A.Ed., Washington University, 1963.
Mandat, Eric, Associate Professor, D.M.A., Eastman School of Music, 1986.
McHugh, Catherine, Professor, *Emerita*, Ed.D., Columbia University, 1959.
Mellado, Daniel, Associate Professor, Ph.D., Michigan State University, 1979.
Miller, Harold, Assistant Professor, M.M., Wisconsin Conservatory of Music, 1981.
Mochnick, John, Associate Professor, D.M.A., University of Cincinnati, 1978.
Mueller, Robert, Professor, *Emeritus*, Ph.D., Indiana University, 1954.
Olsson, Phillip, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949.
Phillips, Dan, Assistant Professor, M.M., University of Notre Dame, 1979.
Poulos, Helen, Associate Professor, D.M., Indiana University, 1971.
Resnick, Robert, Professor, *Emeritus*, M.Mus., Wichita State University, 1949.
Romain, Edwin, Professor, D.M.A., University of Southern Mississippi, 1976.
Romersa, Henry, Visiting Associate Professor, M.M.Ed., Oberlin College, 1955.
Roubos, Robert, Professor and *Director*, D.M.A., University of Michigan, 1966.
Simmons, Margaret, Associate Professor, M.M., University of Illinois, 1976.
Stemper, Frank, Associate Professor, Ph.D., University of California, 1981.
Taylor, Charles, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1950.
Tomasz, Melanie, Assistant Professor, M.M., Northwestern University, 1973.
Underwood, Jervis, Professor, Ph.D., North Texas State University, 1970.
Wagner, Jeanine, Assistant Professor, D.M.A., University of Illinois, 1987.
Weiss, Robert, Associate Professor, Ph.D., Southern Illinois University, 1984.

Werner, Kent, Associate Professor, *Emeritus*, Ph.D., University of Iowa, 1966.

Paralegal Studies for Legal Assistants

Dibble, Elizabeth, Lecturer, J.D., Southern Illinois University, 1983.
Franklin, Matthew, Lecturer, J.D., Southern Illinois University, 1979.
Hughes, Kenneth, Lecturer, J.D., Southern Illinois University, 1982.
Lacey, Pamela, Lecturer, J.D., Southern Illinois University, 1982.
Starkweather, Lee Ellen, Lecturer, J.D., Southern Illinois University, 1984.

Philosophy (College of Liberal Arts)

Alexander Thomas, Assistant Professor, Ph.D., Emory University, 1984.
Clarke, David S., Jr., Professor, Ph.D., Emory University, 1964.
Diefenbeck, James A., Professor, *Emeritus*, Ph.D., Harvard University, 1950.
Eames, Elizabeth R., Professor, Ph.D., Bryn Mawr College, 1951.
Gatens-Robinson, Eugenie, Assistant Professor, Ph.D., Southern Illinois University, 1984.
Gillan, Garth J., Professor, Ph.D., Duquesne University, 1966.
Hahn, Lewis E., Professor, *Emeritus*, and Editor of *Library of Living Philosophers*, Ph.D., University of California, 1939.
Hahn, Robert A., Associate Professor, Ph.D., Yale University, 1976.
Howie, John, Professor, Ph.D., Boston University, 1965.
Johnson, Mark, Professor, Ph.D., University of Chicago, 1977.
Kelly, Matthew J., Associate Professor and *Chairperson*, Ph.D., University of Notre Dame, 1963.
King, Sallie Behn, Associate Professor, Temple University, 1981.
McClure, George T., Professor, Ph.D., Ohio State University, 1958.
Moore, Willis, Professor, *Emeritus*, Ph.D., University of California, 1936.
Plochmann, George Kimball, Professor, *Emeritus*, Ph.D., University of Chicago, 1950.
Schedler, George E., Professor, Ph.D., University of California at San Diego, 1973; J.D., Southern Illinois University 1987.
Schilpp, Paul A., Professor, *Emeritus*, Ph.D., Stanford University, 1936.
Tyman, Stephen, Associate Professor, University of Toronto, 1980.

Physical Education (College of Education)

Ackerman, Kenneth, Assistant Professor, M.A., Michigan State University, 1959.
Baker, John A.W., Associate Professor, Ph.D., University of Iowa, 1980.
Blackman, Claudia J., Assistant Professor, M.S.Ed., Southern Illinois University, 1968.
Blinde, Elaine M., Assistant Professor, Ph.D., University of Illinois, 1987.
Brechtelsbauer, Kay M., Assistant Professor, Ph.D., Southern Illinois University, 1980.
Buckenmeyer, Philip J., Assistant Professor, Ph.D., University of Maryland, 1986.
Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970.
DeVita, Paul, Assistant Professor, Ph.D., University of Oregon, 1986.
Dirks, W. Edward, Instructor, M.S., Southern Illinois University, 1964; Certificate, Physical Therapy, Ohio State University, 1965.
Franklin, Marcile, Instructor, M.S.Ed., Indiana University, 1944.
Good, Larry, Associate Professor, Ph.D., Temple University, 1968.
Hartzog, Lewis, Instructor, *Emeritus*, M.E., Colorado State University, 1954.
Illner, Julee Ann, Assistant Professor, M.S.Ed., Southern Illinois University, 1968.
Knowlton, Ronald, Professor, Ph.D., University of Illinois, 1961.
Long, Linn, Instructor, M.S., University of Colorado, 1967.
Martin, Janis, Assistant Professor, Ed.D., University of Tennessee, 1982.
Meade, William, Assistant Professor, M.A.Ed., University of North Carolina, 1950.
Okita, Ted, Professor, M.A., Northwestern University, 1964.
Perkins, Sally A., Instructor, M.S., Indiana University, 1976.
Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958.
Shea, Edward, Professor, *Emeritus*, Ph.D., New York University, 1955.
Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954.
Thorpe, Jo Anne Lee, Professor, *Emerita*, Ph.D., Texas Woman's University, 1964.
West, Charlotte, Professor, Ph.D., University of Wisconsin, 1969.
Wilson, Donna, Assistant Professor, M.F.A., University of Oklahoma, 1975.
Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951.

Physics (College of Science)

Ali, Naushad, Assistant Professor, Ph.D., University of Alberta, 1984.
Arvin, Martin J., Professor, *Emeritus*, Ph.D., University of Illinois, 1934.
Cutnell, John D., Professor, Ph.D., University of Wisconsin, 1967.
Gruber, Bruno J., Professor, Ph.D., University of Vienna, Austria, 1962.
Hart, Charles F., Assistant Professor, Ph.D., University of Texas, 1981.
Henneberger, Walter C., Professor, Ph.D., Göttingen University, Germany, 1959.
Johnson, Kenneth W., Associate Professor, Ph.D., Ohio State University, 1967.
Malhotra, Vivak, Associate Professor, Ph.D., Indian Institute of Technology, Kanpur, 1978.
Masden, J. Thomas, Assistant Professor, Ph.D., Purdue University, 1983.
Malik, F. Bary, Professor, Ph.D., Göttingen University, West Germany, 1958.
Migone, Aldo, Assistant Professor, Ph.D., Pennsylvania State University, 1984.
Nickell, William E., Professor, *Emeritus*, Ph.D., University of Iowa, 1954.
Sanders, Frank C., Jr., Associate Professor and *Chairperson*, Ph.D., University of Texas, 1968.
Saporoschenko, Mykola, Professor, Ph.D., Washington University, 1958.
Watson, Richard E., Professor *Emeritus*, Ph.D., University of Illinois, 1938.
Zaidi, Mumtaz, Visiting Professor, Ph.D., Cornell University, 1960.
Zitter, Robert N., Professor, Ph.D., University of Chicago, 1962.

Physiology (School of Medicine)

Banerjee, Chandra M., Professor, M.D., University of Calcutta, 1959; Ph.D., Medical School of Virginia, Richmond, 1967.
Bartke, Andrzej, Professor and *Chairperson*, Ph.D., University of Kansas, 1965.
Browning, Ronald A., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971.
Coulson, Richard L., Professor, Ph.D., University of Toronto, 1971.
Cox, Thomas C., Associate Professor, Ph.D., Arizona State University, 1979.
Dunagan, Tommy T., Professor, Ph.D., Purdue University, 1960.
Ellert, Martha S., Associate Professor, Ph.D., University of Miami, 1967.
Falvo, Richard E., Professor, Ph.D., University of Wyoming, 1970.
Ferraro, James S., Assistant Professor, Ph.D., The Chicago Medical School, 1984.
Foote, Florence M., Professor *Emerita*, Ph.D., University of Iowa, 1940.
Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971.
Johnson, Anne K., Instructor, M.S., Ohio State University, 1962.
Kaplan, Harold M., Professor *Emeritus*, Ph.D., Harvard University, 1933.
Miller, Donald M., Professor, Ph.D., University of Illinois, Champaign-Urbana, 1965.
Murphy, Laura L., Research Assistant Professor, Ph.D., Medical College of Georgia, 1983.
Myers, J. Hurley, Professor, Ph.D., University of Tennessee, Health Science Center at Memphis, 1969.
Nequin, Lynn G., Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1970.
Peters, Rudolph N., Professor, Ph.D., University of Florida, Gainesville, 1965.
Russell, Lonnie, Professor, Ph.D., University of Nebraska, 1974.
Shanahan, Michael, Associate Professor, Ph.D., University of Michigan, 1976.
Sollberger, Arne, Professor, *Emeritus*, M.D., Karolinska Institute, Sweden, 1957.
Steger, Richard, Associate Professor, Ph.D., University of Wyoming, 1974.
Wade, David R., Associate Professor, Ph.D., Cambridge University, England, 1967.
Yau, William M., Professor, Ph.D., Medical College of Virginia, 1971.

Plant and Soil Science (College of Agriculture)

Chong, She Kong, Associate Professor, Ph.D., University of Hawaii, 1979.
Diesburg, Kenneth, Assistant Professor, Ph.D., Iowa State University, 1987.
Elkins, Donald M., Professor, Ph.D., Auburn University, 1967.
Hillyer, Irvin G., Professor, Ph.D., Michigan State University, 1956.
Jones, Joe H., Professor, *Emeritus*, Ph.D., Ohio State University, 1960.
Kapusta, George, Professor, Ph.D., Southern Illinois University, 1975.
Kjelgren, Roger K., Assistant Professor, Ph.D., University of Washington, 1988.
Klubek, Brian P., Associate Professor, Ph.D., Utah State University, 1977.

Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953.
 Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963.
 Olsen, Farrel J., Professor, Ph.D., Rutgers University, 1961.
 Portz, Herbert L., Professor, *Emeritus*, Ph.D., University of Illinois, 1954.
 Preece, John E., Associate Professor, Ph.D., University of Minnesota, 1980.
 Starman, Terri, Assistant Professor, Ph.D., Texas A&M University.
 Stoelzle, Karen L., Assistant Professor, H.L.A., University of Georgia, 1983.
 Stucky, Donald J., Professor, Ph.D., Purdue University, 1963.
 Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982.
 Tweedy, James A., Professor, *Dean*, Ph.D., Michigan State University, 1966.
 Varsa, Edward C., Associate Professor, Ph.D., Michigan State University, 1970.

Political Science (College of Liberal Arts)

Baker, John H., Associate Professor, Ph.D., Princeton University, 1961.
 Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, 1969.
 Brown, Barbara L., Lecturer, Ph.D., Southern Illinois University, 1985.
 Chou, Ikua, Professor, *Emeritus*, Ph.D., Fletcher School of Law and Diplomacy, 1949.
 Clinton, Robert, Assistant Professor, Ph.D., University of Texas at Austin, 1985.
 Dale, Richard, Associate Professor, Ph.D., Princeton University, 1962.
 Derge, David Richard, Professor, Ph.D., Northwestern University, 1955.
 Desai, Uday, Associate Professor, Ph.D., University of Pittsburgh, 1973.
 Ervin, Osbin L., Associate Professor, Ph.D., University of Tennessee, 1974.
 Esler, Michael, Instructor, M.A., Arizona State University, 1981.
 Foster, John L., Associate Professor and *Chairperson*, Ph.D., University of Minnesota, 1971.
 Garner, William R., Associate Professor, Ph.D., Tulane University, 1963.
 Hamman, John, Assistant Professor, Ph.D., University of Illinois, 1988.
 Hanson, Earl Thomas, Professor, *Emeritus*, Ph.D., University of Illinois, 1948.
 Hardenbergh, William, Professor, Ph.D., University of Illinois, 1954.
 Jackson, John S., III, Professor, *Dean*, Ph.D., Vanderbilt University, 1971.
 Jacobini, Horace B., Professor, Ph.D., University of Kansas, 1951.
 Kamarasy, Egon K., Assistant Professor, *Emeritus*, Doctor Politics, Budapest University, Hungary, 1942.
 Kenney, David, Professor, *Emeritus*, Ph.D., University of Illinois, 1952.
 Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938.
 Landecker, Manfred, Associate Professor, Ph.D., Johns Hopkins University, 1965.
 Mason, Ronald M., Associate Professor, Ph.D., University of Iowa, 1976.
 Melone, Albert, Professor, Ph.D., University of Iowa, 1972.
 Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971.
 Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941.
 Nelson, Randall H., Professor, *Emeritus*, Ph.D., University of Michigan, 1956.
 Paine, Joann P., Associate Professor, Ph.D., University of Oregon, 1967.
 Schmidt, Diane, Assistant Professor, Ph.D., Washington University, 1988.
 Schubert, Glendon, Research Professor, Ph.D., Syracuse University, 1948.
 Snavelly, Keith, Assistant Professor, Ph.D., University of California at Davis, 1984.
 Somit, Albert, Distinguished Service Professor, Ph.D., University of Chicago, 1947.
 Stauber, Leland G., Associate Professor, Ph.D., Harvard University, 1964.
 Turley, William S., Professor, Ph.D., University of Washington, 1972.

Psychology (College of Liberal Arts)

Bekker, L. DeMoyné, Associate Professor, Ph.D., Ohio State University, 1968.
 Bruten, Gene J., Professor, Ph.D., University of Illinois, 1957.
 Buck, Terence D., Associate Professor, Ph.D., University of Missouri, 1968.
 Carrier, Neil A., Professor, *Emeritus*, Ph.D., University of Michigan, 1956.
 Clancy, Stephanie M., Assistant Professor, Ph.D., Syracuse University, 1989.
 Corcoran, Kevin J., Assistant Professor, Ph.D., University of Connecticut, 1984.
 Cunningham, Jean, Associate Professor, Ph.D., University of Utah, 1981.
 Dillon-Summer, Ronna, Professor, Ph.D., University of California, Riverside, 1978.
 Dollinger, Stephen J., Professor, Ph.D., University of Missouri-Columbia, 1977.
 Dunagan, Shirley S., Instructor, M.S., University of Tennessee, 1954.
 Ehrenfreund, David, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947.
 Gannon, Linda, Professor, Ph.D., University of Wisconsin, 1975.
 Gilbert, Brenda O., Assistant Professor, Ph.D., University of Florida, 1985.

- Gilbert, David G., Assistant Professor, Ph.D., Florida State University, 1978.
 Graham, Jack W., Professor, Ph.D., Purdue University, 1951.
 Holly, Daniel, Adjunct Assistant Professor, Ph.D., University of Utah, 1982.
 Hunter, Richard H., Adjunct Assistant Professor, Ph.D., Southern Illinois University, 1982.
 Jensen, Robert A., Associate Professor, Ph.D., Northern Illinois University, 1976.
 Kelley, Noble H., Professor, *Emeritus*, Ph.D., State University of Iowa, 1936.
 Leong, Frederick T. L., Assistant Professor, Ph.D., University of Maryland, 1988.
 Lit, Alfred, Professor, *Emeritus*, Ph.D., Columbia University, 1948.
 McHose, James H., Professor and *Chairperson*, Ph.D., University of Iowa, 1961.
 McKillip, John A., Professor, Ph.D., Loyola University of Chicago, 1974.
 Meltzer, Donald, Professor, Ph.D., University of Pittsburgh, 1963.
 Mitchell, Thomas O., Associate Professor, Ph.D., University of Colorado, 1969.
 Molfese, Dennis L., Professor, Ph.D., Pennsylvania State University, 1972.
 Molfese, Victoria J., Professor, Ph.D., Pennsylvania State University, 1974.
 O'Donnell, James P., Associate Professor, Ph.D., University of Pittsburgh, 1965.
 Pitz, Gordon F., Professor, Ph.D., Carnegie-Mellon University, 1963.
 Purcell, Thomas D., Associate Professor, Ph.D., Southern Illinois University, 1965.
 Radtke, Robert C., Associate Professor, Ph.D., State University of Iowa, 1963.
 Rafferty, Janet E., Professor, *Emerita*, Ph.D., Ohio State University, 1952.
 Ramanaiah, Nerella, Professor, Ph.D., University of Oregon, 1971.
 Ringuette, Eugene L., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1963.
 Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963.
 Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969.
 Shea, Sandra, Assistant Professor, Ph.D., Vanderbilt University, 1980.
 Shoemaker, Donald J., Professor, *Emeritus*, Ph.D., Ohio State University, 1955.
 Smith, Douglas C., Associate Professor, Ph.D., Kansas State University, 1977.
 Snyder, John F., Associate Professor, Ph.D., Loyola University, 1965.
 Swanson, Jane L., Assistant Professor, Ph.D., University of Minnesota, 1986.
 Tinsley, Diane J., Adjunct Assistant Professor, Ph.D., University of Minnesota, 1972.
 Tinsley, Howard E.A., Professor, Ph.D., University of Minnesota, 1971.
 Vaux, Alan C., Associate Professor, Ph.D., Trinity College, Ireland, 1979; Ph.D., University of California at Irvine, 1980.
 Westberg, William C., Professor *Emeritus*, Ph.D., Pennsylvania State University, 1948.
 Wendt, Rachel, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1966.
 Yanico, Barbara, Associate Professor, Ph.D., Ohio State University, 1977.
 York, Dollean, Adjunct Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1982.

Radio-Television (College of Communications and Fine Arts)

- Atkin, David J., Instructor, M.A., Michigan State University, 1986.
 Brown, William Edward, Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1974.
 Dybvig, Homer E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.
 Foote, Joe S., Associate Professor and *Chairperson*, Ph.D., University of Texas at Austin, 1979.
 Garry, Kenneth J., Assistant Professor, Ph.D., Southern Illinois University, 1982.
 Gher, Leo, Instructor, M.S., Southern Illinois University, 1980.
 Hildreth, Richard, Associate Professor, *Emeritus*, M.S., Syracuse University, 1968.
 Holmes, John H., Lecturer, M.S., Southern Illinois University, 1971.
 Johnson, M. William, Assistant Professor, M.S., Brooklyn College, City University of New York, 1965.
 Keller, Kenneth R., Assistant Professor, M.T.V., University of Illinois, 1966.
 Lin, Carolyn A., Assistant Professor, Ph.D., Michigan State University, 1987.
 Murrie, Michael H., Assistant Professor, M.A., University of Missouri, 1977.
 Robbins, Buren, Associate Professor, *Emeritus*, M.A., University of Iowa, 1935.
 Shipley, Charles W., Professor, *Emeritus*, Ph.D., Florida State University, 1971.
 Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969.
 Starr, Michael F., Assistant Professor, L.L.M., Georgetown University, 1966.
 Walker, Myers, Instructor, M.F.A., Southern Illinois University, 1971.

Recreation (College of Education)

- Abernathy, William, Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1963.

Allen, John R., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1977.
 Glover, James, Assistant Professor, Ph.D., University of Maryland, 1980.
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 Malkin, Marjorie J., Assistant Professor, Ed.D., University of Georgia, 1986.
 McEwen, Douglas, Professor, Ph.D., Michigan State University, 1973.
 O'Brien, William, Professor, *Emeritus*, D.Rec., Indiana University, 1967.
 Sims, Steven, Assistant Professor, University of Oregon, 1987.
 Teaff, Joseph, Professor, Ed.D., Columbia University, 1973.

Rehabilitation Institute (College of Education)

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 Austin, Gary, Professor, Ph.D., Northwestern University, 1973.
 Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1962.
 Benschoff, John J., Assistant Professor, Ph.D., University of Northern Colorado, 1988.
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 Bryson, Seymour L., Professor, Ph.D., Southern Illinois University, 1972.
 Crimando, William, Professor, Ph.D., Michigan State University, 1980.
 Cuvo, Anthony J., Professor, Ph.D., University of Connecticut, 1973.
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 Greene, Brandon F., Professor, Ph.D., Florida State University, 1979.
 Grenfell, John E., Professor, Ed.D., Oregon State University, 1966.
 Hafer, Marilyn, Associate Professor, *Emerita*, Ph.D., Texas Tech University, 1971.
 Hanley-Maxwell, Cheryl, Assistant Professor, Ph.D., University of Illinois, 1986.
 Hawley, Irene B., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1973.
 Janikowski, Timothy, Assistant Professor, Ph.D., University of Wisconsin-Madison, 1988.
 Lee, Robert E., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1964.
 Poppen, Roger L., Professor, Ph.D., Stanford University, 1968.
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 Rigger, Theodore F., Professor, Ed.D., University of Northern Colorado, 1977.
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 Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968.
 Schumacher, Brockman, Professor, Ph.D., Washington University, 1969.
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 Viecei, Louis, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1959.
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Religious Studies (College of Liberal Arts)

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Social Work

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 Parker, Michael D., Assistant Professor, D.S.W., Arizona State University, 1986.
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Sociology (College of Liberal Arts)

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Hope, Keith, Professor, Ph.D., Oxford University, 1963.
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Patterson, Edgar I., Assistant Professor, M.A., University of Kansas, 1961.
Shalin, Dmitri N., Associate Professor, Ph.D., U.S.S.R. Academy of Science, 1973.
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Snyder, Charles R., Professor, *Emeritus*, Ph.D., Yale University, 1954.
Taub, Diane E., Assistant Professor, Ph.D., University of Kentucky, 1986.
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Williams, Rhys, Assistant Professor, Ph.D., University of Massachusetts at Amherst, 1988.

Special Education (College of Education)

- Bates, Paul**, Associate Professor, Ph.D., University of Wisconsin, 1978.
Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963.
Cordon, Barbara, Assistant Professor, Ed.D., Duke University, 1976.
Crowner, James, Professor, *Emeritus*, Ph.D., Michigan State University, 1960.
Ewing, Norma J., Associate Professor and *Chairperson*, Ph.D., Southern Illinois University, 1974.
Hisama, Toshiaki, Associate Professor, Ph.D., University of Oregon, 1971.
Juul, Kristen D., Professor, Ed.D., Wayne State University, 1953.
Miller, Sidney R., Associate Professor, Ph.D., Pennsylvania State University, 1974.
Morgan, Howard, Professor, *Emeritus*, Ed.D., Wayne State University, 1962.
Praher, Mary Ann, Assistant Professor, Ph.D., Utah State University, 1974.
Presley, Priscilla H., Lecturer, Ph.D., Southern Illinois University, 1981.
Rainey, Dan, Assistant Professor, *Emeritus*, MS.Ed., Southern Illinois University at Carbondale, 1956.
Teska, James, Associate Professor, Ph.D., University of Illinois, 1969.

Speech Communication (College of Communications and Fine Arts)

- Bile, Jeff**, Instructor, M.A., Eastern Illinois University, 1984.
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Crow, Bryan, Assistant Professor, Ph.D., University of Iowa, 1982.
Davis, Dennis, Professor, Ph.D., University of Minnesota, 1973.
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Higgerson, Mary Lou, Associate Professor, Ph.D., University of Kansas, 1974.
Kleinau, Marion L., Professor, Ph.D., University of Wisconsin, 1961.
Kleinau, Marvin D., Associate Professor, Ph.D., Southern Illinois University, 1977.
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Micken, Ralph A., Professor, *Emeritus*, Ph.D., Northwestern University, 1948.
Minor, William S., Adjunct Professor, Ph.D., University of Chicago, 1971.
Pace, Thomas J., Professor, Ph.D., University of Denver, 1957.
Parkinson, Michael G., Associate Professor, A.P.R., Ph.D., University of Oklahoma, 1978.
Pelias, Mary, Associate Professor, Ph.D., Southern Illinois University, 1982.
Pelias, Ronald J., Associate Professor, Ph.D., University of Illinois, 1979.
Potter, David J., Professor, *Emeritus*, Ph.D., Columbia University, 1943.
Smith, William D., Associate Professor, Ph.D., Southern Illinois University, 1964.
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VanOosting, James, Professor, Ph.D., Northwestern University, 1980.

Wiley, Raymond D., Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1965.

Technology (College of Engineering and Technology)

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Baker, Kemper W., Visiting Assistant Professor, Ph.D., California Coast University, 1982.

Barbay, Joseph E., Jr., Associate Professor and *Chairperson*, Ph.D., University of Missouri, Columbia, 1971.

Besterfield, Dale H., Professor and *Assistant Chairperson* Ph.D., Southern Illinois University, 1971.

Chen, Han Lin, Associate Professor, M.S., Southern Illinois University, 1958.

Contor, Keith L., Associate Professor, M.S., State College of Washington at Pullman, 1960.

Cross, Bud D., Visiting Assistant Professor, M.S., Southern Illinois University, 1965, Director ITMP.

Cutrell, Charles R., Visiting Assistant Professor, M.B.A., University of Missouri, 1972.

Dunning, E. Leon, Professor, *Emeritus*, Ph.D., University of Houston, 1967.

Eichfield, William F., Assistant Professor, M.S., University of Wisconsin, 1973.

Ferketich, Robert R., Associate Professor, Ph.D., Southern Illinois University, 1980.

Frank, Roy R., Jr., Assistant Professor, M.S., Southern Illinois University, 1983.

Gardner, Autrey T., Visiting Assistant Professor, M.A., University of Colorado, 1983.

Hart, Willard C., Instructor, *Emeritus*, B.S., University of Illinois, 1939.

Horwitz, Norman G., Visiting Assistant Professor, M.S., Polytechnic Institute of Brooklyn, 1972.

Jakubowski, Tadeus L., Visiting Assistant Professor, M.A., University of Maryland, 1968.

Johnson, Marvin E., Professor, *Emeritus*, Ed.D., University of Missouri, Columbia, 1959.

Jones, Robert L., Visiting Assistant Professor, M.S., University of Arkansas, 1978.

King, Frank H., Visiting Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1981.

Lasley, Alan L., Visiting Assistant Professor, M.S., Drury College, 1974.

Lindsey, Jefferson F., III., Professor, D. Engr., Lamar University, 1976.

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Marshall, Eugene R., Visiting Assistant Professor, M.S., Purdue University, 1970.

Marusarz, Ronald K., Assistant Professor, M.S., Southern Illinois University, 1978.

McBeath, John K., Visiting Assistant Professor, M.A., San Francisco State University, 1969.

Medeiros, Raymond R., Visiting Assistant Professor, M.S., Texas Tech College, 1964.

Meyers, Fred E., Associate Professor, M.B.A., Capitol University, 1975.

Nolan, Emil Ray, Visiting Assistant Professor, M.S., University of Arkansas, 1985.

O'Hagan, Flora M., Visiting Assistant Professor, M.S., University of Wisconsin at Madison, 1970.

O'Hagan, Robert E., Visiting Assistant Professor, M.S., Wisconsin State University, 1974.

Olson, Herbert A., Visiting Assistant Professor, Ph.D., University of Houston, 1970.

Orr, James P., Associate Professor, Ph.D., Southern Illinois University, 1983.

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Pagano, Mark A., Associate Professor, M.S., Southern Illinois University, 1983.

Rogers, C. Lee, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1975.

Stephens, Matthew P., Visiting Assistant Professor, M.S., University of Arkansas, 1986.

Slaney, John H., Visiting Assistant Professor, M.S., George Washington University, 1967.

Stuessy, Eugene L., Visiting Associate Professor, Ed.D., Texas A & M University, 1969.

Szary, Marek, Assistant Professor, Ph.D., Wroclaw (Poland), 1977.

Trivedi, Abhay V., Associate Professor, M.S., North Dakota State University, 1984.

Zeigler, Timothy W., Assistant Professor, M.S., University of Illinois, 1969.

Theater (College of Communications and Fine Arts)

Hiatt, Janet, Assistant Professor, M.F.A., Ohio University, 1973.

Innerst, Lynne, Assistant Professor, M.F.A., University of Southern California, 1983.

McLeod, Archibald, Professor, *Emeritus*, Ph.D., Cornell University, 1943.

Merrill-Fink, Lori, Assistant Professor, M.F.A., University of Arizona, 1988.

Moe, Christian H., Professor, and *Chairperson*, Ph.D., Cornell University, 1958.

Morris, Mike D., Assistant Professor, M.F.A., Southern Illinois University, 1988.

Naversen, Ronald, Assistant Professor, M.F.A., Carnegie-Mellon University, 1978.

Stevens, David, Associate Professor and *Chairperson*, Ph.D., Bowling Green University, 1973.

Stewart-Harrison, Eelin, Professor, *Emerita*, Ph.D., Louisiana State University, 1968.

Straumanis, Alfreds, Professor, Ph.D., Carnegie Institute of Technology, 1966.

Vocational Education Studies (College of Education)

- Anderson-Yates, Marcia, Associate Professor, Ph.D., Southern Illinois University, 1975.
 Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968.
 Bortz, Richard F., Professor, Ph.D., University of Minnesota, 1967.
 Boss, Richard D., Visiting Associate Professor, Ed.D., Oregon State University, 1968.
 Brames, Thomas J., Visiting Assistant Professor, Ed.D., Utah State University, 1975.
 Bubnas, Phyllis, Assistant Professor, M.S., Southern Illinois University, 1960.
 Buila, Theodore, Associate Professor, Ph.D., Cornell University, 1968.
 Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970.
 Cilley, Richard N., Visiting Assistant Professor, Ed.D., Virginia Polytechnic Institute and State University, 1977.
 Coleman, Dorothy Z., Visiting Assistant Professor, Ed.D., University of Georgia, 1985.
 Cunningham, William J., Visiting Assistant Professor, Ed.D., University of Tennessee, 1976.
 DeWulf, Bernard G., Visiting Assistant Professor, Ph.D., Washington University (St. Louis), 1962.
 Duree, James F., Visiting Assistant Professor, Ed.D., University of Missouri, 1979.
 Erickson, Brenda, Lecturer, M.S., Southern Illinois University, 1987.
 Gooch, Bill G., Professor, Ed.D., University of Tennessee, 1973.
 Hagler, Barbara, Lecturer, M.S., Southern Illinois University, 1977.
 Harbert, Donald L., Visiting Associate Professor, Ed.D., University of Florida, 1968.
 Huck, John F., Associate Professor, Ed.D., University of Illinois, 1973.
 Jenkins, James, Professor, Ed.D., Pennsylvania State University, 1955.
 King, Jacquelyn, Lecturer, Ph.D., Southern Illinois University, 1986.
 King, Janice E., Lecturer, M.S., Southern Illinois University, 1978.
 Klehm, Merwyn A., Visiting Assistant Professor, Ph.D., Ohio State University, 1974.
 Koehler, Charles Russell, Jr., Visiting Assistant Professor, Ph.D., Colorado State University, 1980.
 Legacy, James, Professor, Ph.D., Cornell University, 1976.
 Little, Richard L., Visiting Associate Professor, Ed.D., Arizona State University, 1968.
 Lowe, Madelaine, Visiting Assistant Professor, Ed.D., Texas A&M University, 1983.
 May-Plumlee, Traci, Lecturer, M.S., Arizona State University, 1988.
 Mullen, Paul E., Visiting Assistant Professor, Ph.D., University of Missouri, 1976.
 Nervig, Nordale N., Visiting Assistant Professor, *Emeritus*, Ed.D., Utah State University, 1977.
 Phipps, Jeffrey R., Visiting Assistant Professor, Ed.D., U.S. International University.
 Reneau, Fred, Associate Professor, Ed.D., Virginia Polytechnic Institute and State University, 1979.
 Ridley, Samantha Sue, Assistant Professor, M.S., Southern Illinois University, 1959.
 Rodgers, William L., Visiting Instructor, M.S., Southern Illinois University, 1982.
 Shields, Bill J., Instructor, M.S.Ed., Southern Illinois University, 1963.
 Stadt, Ronald W., Professor, Ed.D., University of Illinois, 1962.
 Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.
 Sullivan, James A., Professor, Ed.D., West Virginia University, 1967.
 Sutton, W. Clyde, Visiting Instructor, M.S., Murray State University, 1973.
 Washburn, John S., Associate Professor and *Chairperson*, Ed.D., University of Illinois, 1977.
 Whelchel, Richard, Visiting Assistant Professor, Ph.D., Kansas State, 1974.
 Workman, Jane, Associate Professor, Ph.D., Purdue University, 1982.

Zoology (College of Science)

- Anthoney, Terence R., Associate Professor, M.D., Ph.D., University of Chicago, 1968, 1975.
 Beatty, Joseph A., Associate Professor, Ph.D., Harvard University, 1969.
 Blackwelder, Richard E., Professor, *Emeritus*, Ph.D., Stanford University, 1934.
 Brandon, Ronald A., Professor, Ph.D., University of Illinois, 1962.
 Burr, Brooks M., Professor, Ph.D., University of Illinois, 1977.
 Drickamer, Lee C., Professor, *Chairman*, Ph.D., Michigan State University, 1970.
 Dyer, William G., Professor, Ph.D., Colorado State University, 1965.
 Englert, DuWayne C., Professor, Ph.D., Purdue University, 1964.
 Feldhamer, George A., Associate Professor, Oregon State University, 1977.
 Fisher, Harvey I., Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1942.
 Garoian, George, Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

- George, William G.**, Professor, Ph.D., University of Arizona, 1961.
Heidinger, Roy C., Professor, Ph.D., Southern Illinois University, 1970.
King, David, Associate Professor, Ph.D., University of California at San Diego, 1975.
Klimstra, Willard D., Distinguished Professor, *Emeritus*, Ph.D., Iowa State University, 1949.
Kohler, Christopher C., Associate Professor, Ph.D., Virginia Polytechnic Institute and State University, 1980.
LeFebvre, Eugene A., Associate Professor, Ph.D., University of Minnesota, 1962.
Lewis, William M., Professor, *Emeritus*, Ph.D., Iowa State University, 1949.
Martan, Jan, Professor, *Emeritus*, Ph.D., University of Oregon, 1963.
McKee, Michael J., Assistant Professor, Ph.D., University of Missouri, 1985.
McPherson, John E., Jr., Professor, Ph.D., Michigan State University, 1968.
Paparo, Anthony A., Professor, Ph.D., Fordham University, 1969.
Phillippi, Mary Ann, Assistant Professor, University of Kentucky, 1984.
Roby, Daniel D., Assistant Professor, Ph.D., University of Pennsylvania, 1986.
Seeb, James E., Assistant Professor, Ph.D., University of Washington, 1987.
Sheehan, Robert J., Assistant Professor, Ph.D., Southern Illinois University, 1984.
Shepherd, Benjamin A., Professor, Ph.D., Kansas State University, 1970.
Stahl, John B., Associate Professor, Ph.D., Indiana University, 1958.
Stains, Howard J., Professor, Ph.D., University of Kansas, 1955.
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Waring, George H., Professor, Ph.D., Colorado State University, 1966.
Woolf, Alan, Professor, Ph.D., Cornell University, 1972.

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